

INITIAL STUDY

The Department of Toxic Substances Control DTSC) has completed the following Initial Study for this project in accordance with the California Environmental Quality Act (21000 et seq., California Public Resources Code) and implementing Guidelines (15000 et seq., Title 14, California Code of Regulations).

I. PROJECT INFORMATION

Project Name: U.S. Department of Energy/Sandia National Laboratories

Site Address: 7011 East Avenue

City: Livermore State: CA Zip Code: 94550 County: Alameda

Contact Person: Leighton Ford

Address: 7011 East Avenue

City: Livermore State: CA Zip Code: 94550 Phone Number: (925) 294-4506

Project Description:

In accordance with California Health and Safety Code (H&SC), section 25200, the Department of Toxic Substances Control (DTSC) is proposing to renew the Hazardous Waste Facility Permit issued to the U.S. Department of Energy/Sandia National Laboratories (Sandia) authorizing the continued operation of on-site storage and treatment of hazardous wastes including mixed waste and combined waste. Mixed waste is a Resource and Conservation and Recovery Act (RCRA) hazardous waste contaminated with low levels of radioactivity whereas combined waste is a non-RCRA hazardous waste contaminated with low levels of radioactivity.

Sandia was granted a permit to operate its hazardous waste treatment and storage facility on January 4, 1993; the permit expired on January 4, 2003. Sandia submitted to DTSC a renewal application dated December 20, 2001 and subsequently revised in September 2003. The renewal of the permit would impose the requirements of Chapters 14 and 20, Title 22, Division 4.5, California Code of Regulations (CCR) upon Sandia's operations.

Project Activities:

If approved, the permit would authorize the following activities:

1. Manage hazardous waste in Building 9611 which replaces previously permitted Building 9622 and nine storage sheds
2. Storage up to one year of low level mixed waste in containers in Building 961. Mixed waste may be stored for greater than one-year with DTSC approval.
3. Storage up to one year of hazardous waste in containers in Building 9611
4. Storage up to one year of contaminated debris from demolition activities in two roll-off bins
5. Storage up to one year of contaminated empty drums in one Conex
6. Consolidation and commingling of similar wastes in containers in Building 961 and Building 9611
7. Compaction of empty drums in Building 961 and Building 9611
8. Compaction of contaminated solid wastes such as rags in Building 961 and Building 9611

Project Location:

The Sandia facility is located at 7011 East Avenue, Livermore, California at latitude 37° 40' 30" and longitude 121° 42' 001" It lies at the base of Altamont Hills, 45 miles east of San Francisco at the southeast end of the

Livermore Valley in southern Alameda County (see Figure 1, Location Map). It occupies 413 acres of Section 13, T3S, and R2E of the USGS Altamont Quadrangle, California. Sandia can be accessed from Highway I-580 through south Vasco Road. It is bordered by East Avenue in the north, Tesla Road in the south, Greenville Road in the east and Vasco Road in the West (see Figure 2, Facility Map). The real property is situated in the unincorporated area of the Township of Murray, County of Alameda, State of California. The site's legal description is as follows: a portion of Section 13, Township 3 South, Range 2 East, Mount Diablo Base and Meridian, also being a portion of Plot K of the map of Rancho Las Positas, a copy of the said map was filed for record on June 16, 1873 in Lieber 95 of Deeds, page 205, Alameda County Record.

The whole site is surrounded on all sides by undeveloped land which serves as buffer zone. Across the street to the north of Sandia is Lawrence Livermore National Laboratory, and further north is an expanding business park and commercial development. The property to the south and east of Sandia beyond the buffer zone is made up of agricultural and low density residential areas. The area to the west is principally residential and encompasses a wide range of uses, which include a business park, grazing lands, vineyards and other small agricultural and industrial developments.

Background:

Sandia National Laboratories (Sandia) is the prime contractor to the U.S. Department of Energy (U.S. DOE). The U.S. DOE and Sandia are joint operators of the hazardous waste storage and treatment facility (HWSTF). Sandia specializes in research and development of advanced military technology, energy and environmental research, arms control/proliferation, and advanced manufacturing technology. Sandia is responsible for the day-to-day operations such as waste analysis and handling, monitoring, record keeping, reporting and contingency planning of the HWSTF.

U.S. DOE is responsible for policy, programmatic, funding and scheduling decisions as well as general oversight of the HWSTF which is the subject of this initial study.

Hazardous wastes and mixed/combined waste generated at different locations throughout Sandia's research laboratories and maintenance facilities are taken to the HWSTF for treatment and storage before they are shipped off-site for further treatment or disposal. Hazardous wastes being handled include coolants, aerosols, asbestos, batteries, acids, caustics, low level mixed wastes and combined wastes, scintillation cocktail, wastewater, solvents, photochemical waste, polychlorobiphenyl (PCB) waste from clean-up operations, oil wastes, lab packs consisting of off-specification chemicals and empty drums. Detailed information on these wastes can be found in Section III of Sandia's Part B application dated September 2003.

Low level mixed wastes and combined wastes are hazardous wastes that typically exhibit ignitability, reactivity and/or toxicity characteristics, as well as have low level radioactive properties. The dual nature of these wastes poses additional safety concerns and requirements. DTSC regulates the hazardous components of mixed waste and combined waste. The radioactive component of mixed waste and combined waste is regulated by the Nuclear Regulatory Commission (NRC), the U.S. DOE, or the California State Department of Health Services. Regulation of nuclear materials is excluded from Title 22, California Code of Regulations and Resource Conservation and Recovery Act (RCRA). Storage and treatment of low level mixed waste became regulated by the U.S. EPA on March 23, 1989, under RCRA.

The Hazardous Waste Storage and Treatment Facility (HWSTF) is located in the middle of the Sandia Facility in between 7th Street and 8th Street as shown in Figure 3, Site Map. The HWSTF is bordered by "A" Street in the east, 7th Street in the north and "C" Street in the west, and is approximately 40 feet from the Arroyo Seco Creek.

Sandia in 1993 was permitted to store and compact mixed waste in Building 961. Sandia was also permitted to store hazardous waste in Building 9622, nine outdoor storage bays and one magazine. In addition, Sandia was permitted to compact and segregate small quantities of miscellaneous chemicals for lab packs in Building 9622. Building 961 has an area of 3,452 square feet; Building 9622 was about 24' x24'. Bays 1 through 9 were temporary metal sheds with tarps serving as front cover to protect the containers stored inside from natural elements such as rain. These metals sheds were used for storing different kinds of hazardous wastes. The

magazete is a small reinforced concrete box used for storing small quantities of oxidizing acids mixed with solvents. Treatment of hazardous wastes consists of consolidation and commingling of similar wastes in containers, and compacting of wastes using solid waste compactor and a drum compactor. Sandia used to store its hazardous waste in two roll-off bins and three Conex containers, and shipped waste offsite every 90 days.

To provide a safe working environment for waste handling operations and protect the nearby Arroyo Seco Creek from any possible contamination from spill during routine activities, Sandia upgraded the HWSTF. The upgrades included the replacement of Building 9622, and the nine storage sheds and expansion of the loading dock for better ingress. The replacement building is called Building 9611.

Building 961 and Building 9611 are single story buildings adjacent to each other. Both buildings are insulated pre-fabricated, pre-engineered steel frame buildings with concrete floor and metal roof. Prior to the construction of Building 9611, Sandia prepared a National Environmental Policy Act of 1969 (NEPA) checklist and determined that the renewal and upgrades of Building 9622 qualified for two categorical exemptions listed in Chapter 10, Code of Federal Regulations (10 CFR) Subpart D, Appendix B, B6.6 or B6.0.

Building 9611 was designed and constructed according to the following standards: 1997 Uniform Building Code (UBC), 1998 California Building Code, AISC Manual of Steel Construction, ASD 9th edition, AISC Seismic Provisions for Structural Steel Buildings, 1997 Edition and Supplement No. 1, AWS D1.1 Structural Welding Code - Steel and AWS D1.1 Structural Welding Code and AWS D1.3 Structural Welding Code - Sheet Steel. A structural engineer registered in the State of California certified that Building 9611 was built in accordance with the the A.I.S.C. (Ninth Edition) and A.I.S.I. (1986) specifications with 1989 addendum and that the design loads and combinations were applied in accordance with 1997 UBC. The design loads and combinations included, e.g. the wind load up to 72 miles per hour, seismic data using Zone 4 and collateral load.

Prior to grading and construction, Sandia conducted partial closure of Building 9622, and Bays 1 through 9. The partial closure included power washing, demolishing and shipping off-site for appropriate disposal. Sandia took soil samples from 11 different locations under the old hazardous waste management facility adjoining Building 961. These locations included the previous Building 9622, areas under the Bays 1 through 9 metal storage sheds and the run-off collection area. Soil samples were taken at the following depths: 1 foot below ground surface (bgs), 2 feet bgs and 3 feet bgs. Samples were analyzed for the following compounds: volatile organic compounds (VOCs), semi-volatile organic compounds (semi-VOCs), pesticides and PCBs, dioxin and metals. No VOCs, semi-VOCs, pesticides and PCBs, and dioxin were detected from the soil samples. Metals were either below backgrounds or below preliminary remedial goals for residential levels.

Building 9611 overlapped the foot print of the previous Building 9622, nine storage bays, and the magazette. The total hazardous waste management area of 5,315 square feet in Building 9611 remains unchanged from previous total permitted management areas. The foundation system of Building 9611 consisted of continuous grade beams and pilasters under each frame column. The floor is concrete slab on grade. Inside Building 9611, there is an office and a laboratory, and nine storage bays which are the same size as the previous nine storage sheds. The waste type and volume in each bay is same as previously permitted for the outside 9 storage sheds. The nine storage bays now have its own sump for secondary containment. Another sump is built into the central area of the building to catch any spill that could result from routine waste management activities outside the waste storage bays. Both the cement floor and sumps are sealed with epoxy coating to prevent absorption of chemical waste should a spill occur during operations. Building 9611 has a new loading dock and a roll-up door along south side of the building for waste handling activities. Clean fill was used to elevate the ground surface of the loading dock. Spill containment is also provided at the loading dock. The Building 9611 has water, electricity, sewer, communication and fire sprinkler system installed according to current building codes. The magazette was relocated and now is inside Building 9611. Building 9611, pending permit renewal approval, is currently only used to store hazardous waste up to 90 days.

A new roll-up door was installed in the south side of Building 961 during the HWSTF upgrade to facilitate access of forklift.

The floor of both Buildings 961 and 9611 is made of 6 inches concrete slab with chemical resistant epoxy coating. Both buildings are equipped with full sprinkler system and fire alarm system.

Two roll-off bins and one Conex are located at the concrete paved facility yard outside the western side of Building 9611. A Conex is similar to a shipping container at the loading docks at international harbor. The roll-off bins and the Conex, about 40 cubic yard each in capacity and previously storing waste up to 90 days, are now proposed to be used for storing solid waste or empty drums up to one year, and are considered part of HWSTF.

Treatment of hazardous wastes consists of consolidation and commingling of similar wastes in containers, and compacting of wastes using two solid waste compactors and a drum compactor. Currently, one drum compactor and one solid waste compactor are located inside Building 961. The drum compactor in Building 961 will be retrofitted at a later date to make it explosion proof capable of compacting both empty drums and solid wastes. A new drum/solid waste compactor will be located at Bay 9 of Building 9611.

Due to limited numbers and capacities of permitted offsite commercial mixed waste treatment, storage and disposal facilities nationwide, the disposal of mixed waste offsite sometimes may encounter difficulties. The permit allows that Sandia's mixed waste may be stored for greater than one-year with DTSC approval. Each storage extension request by Sandia must identify the specific waste and container requiring extended storage. Treatment and disposal limitation for mixed waste, as well as treatment standards imposed by Land Disposal Restrictions may be just cause for granting extended storage approval.

DTSC proposes to renew the Hazardous Waste Facility Permit (Permit) issued to Sandia facility. The Permit is based on the Part A and Part B application submitted by Sandia in September, 2003. The Part A application identifies all possible waste codes or waste types, the estimated annual generation rate, and the number of storage and treatment units. A detailed description of Sandia's waste characterization procedures, emergency plan, training plan and closure plan are provided in the Part B application. The Permit identifies the storage and treatment areas and their associated capacities.

Agency Having Jurisdiction over the Project/Types of Permit Required:

1. State of California Department of Health Services, Radiologic Health Branch for radioactive components of the low-level mixed waste
2. The Bay Area Air Quality Management District (BAAQMD) for Permit to Operate the Drum Crushers, and
3. City of Livermore, Water Resources Division for Wastewater Discharge Permit and Chemical Storage Permit

II. DISCRETIONARY APPROVAL ACTION BEING CONSIDERED BY DTSC

? Initial Permit Issuance	? Closure Plan	? Removal Action Workplan
X Permit Renewal	? Regulations	? Interim Removal
? Permit Modification	? Removal Action Plan	? Other (Specify)

Program/ Region Approving Project: Standardized Permitting and Corrective Action Branch

Contact Person: Cherry Padilla

Address: 700 Heinz Avenue

City: BerkeleyState: CAZip Code: 94710Phone Number: (510) 540-3967III. ENVIRONMENTAL RESOURCES POTENTIALLY AFFECTED

The boxes checked below identify environmental resources which were found in the following ENVIRONMENTAL SETTING/IMPACT ANALYSIS SECTION to be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact".

<input checked="" type="checkbox"/> Not Identified	<input type="checkbox"/> Aesthetics	<input type="checkbox"/> Agricultural Resources
<input type="checkbox"/> Air Quality	<input type="checkbox"/> Biological Resources	<input type="checkbox"/> Cultural Resources
<input type="checkbox"/> Geology and Soils	<input type="checkbox"/> Hazards and Hazardous Materials	<input type="checkbox"/> Hydrology and Water Quality
<input type="checkbox"/> Land Use and Planning	<input type="checkbox"/> Mineral Resources	<input type="checkbox"/> Noise
<input type="checkbox"/> Population and Housing	<input type="checkbox"/> Public Services	<input type="checkbox"/> Recreation
<input type="checkbox"/> Transportation and Traffic	<input type="checkbox"/> Utilities and Service Systems	

IV. ENVIRONMENTAL IMPACT ANALYSIS

The following pages provide a brief description of the physical environmental resources that exist within the area affected by the proposed project and an analysis of whether or not those resources will be potentially impacted by the proposed project. Preparation of this section follows guidance provided in DTSC's California Environmental Quality Act Initial Study Workbook (Workbook). A list of references used to support the following discussion and analysis are contained in Attachment A and are referenced within each section below.

Mitigation measures which are made a part of the project (e.g.: permit condition) or which are required under a separate Mitigation Measure Monitoring or reporting Plan which either avoid or reduce impacts to a level of insignificance are identified in the analysis within each section.

1. Aesthetics

Project activities likely to create an impact: None

Description of Environmental Setting:

The U.S. Department of Energy/Sandia National Laboratories (Sandia) is 2½ miles from Interstate Highway 580 (HWY 580) and can be accessed through Vasco Road. Highway 580 is not officially designated as state scenic highway. Building 961 and Building 9611 and associated yard are the Hazardous Waste Storage and Treatment Facility (HWSTF). Building 961 is an existing structure whereas Building 9611 is a replacement and an upgraded structure within the footprint of the former Building 9622, nine metal sheds and a magazine. Both Building 961 and Building 9611 are single story prefabricated insulated buildings. These buildings are adjacent to each other. This HWSTF is located in the middle of the Sandia. It is separated from neighboring buildings by chain-linked fence around the facility yard. Its yard is covered by asphalt and concrete. The north side of these two buildings runs parallel to 7th Street. The small piece of land parallel to the concrete sidewalk is landscaped with plants which will contribute to the aesthetics of the facility. Two roll-off bins are located on concrete pad west of Building 9611. The Conex is located at the southwest corner of the paved yard next to the fence.

Building 961 and Building 9611 are out of the public view. Hence, the project will not degrade the existing visual character or quality of its surroundings nor would it have adverse effect on a scenic vista. There are no trees within the Hazardous Waste Storage and Treatment Facility yard which is covered with concrete and asphalt. Building 961 and Building 9611 use fluorescent light tubes for lighting inside; Building 9611 has added skylight roofing that provides natural light during the day. All project activities are usually done during day working hours. Therefore, the project will not create a new source of substantial light of glare that would adversely affect day or nighttime views of the area. No construction, dismantling, excavation, or grading is proposed with this project. Since the project (renewal of Hazardous Waste Facility Permit) is housed in existing and upgraded buildings, it is not expected to create an aesthetically offensive site open to public view. Overall, this project has no impact on aesthetics. For these reasons, DTSC finds that the proposed project will not result in impacts upon this resource category, and that no further analysis is required.

Analysis of Potential Impact:

- a. Have a substantial adverse effect on a scenic vista.
- b. Substantially damage scenic resources, including, but not limited to, trees, rock, outcroppings and historic buildings within a state scenic highway.
- c. Substantially degrade the existing visual character or quality of the site and its surroundings.
- d. Create a new source of substantial light of glare that would adversely affect day or nighttime views in the area.

Specific References (List a, b, c, etc.): 1, 2

Findings of Significance:

- ? Potential Significant Impact
- ? Potentially Significant Unless Mitigated
- ? Less Than Significant Impact
- X No Impact

2. Agricultural Resources

Project activities likely to create an impact: None

Description of Environmental Setting:

The U.S. Department of Energy owns the 413 acres of land where Sandia National Laboratories is located. The whole site is bordered by East Avenue in the north, Tesla Road in the south, Greenville Road in the east and Vasco Road in the West (see Figure 3, Site Map). It is surrounded on all sides by undeveloped land which serves as security buffer zone and areas for future development. The property to the south and east of the Sandia beyond the buffer zone is made up of agricultural and low density residential areas. The area to the west is principally residential and encompasses a wide range of uses, which include a business park, grazing lands, vineyards and other small agricultural and industrial developments.

The project is housed in existing and upgraded structures and is not located on farmland. The Hazardous Waste Storage and Treatment Facility yard is covered with concrete and asphalt. Furthermore, no construction, dismantling, excavation, or grading is proposed with this project. For these reasons, DTSC finds that the proposed project will not result in impacts upon this resource category, and no further analysis is required.

Analysis of Potential Impact:

- a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown as maps prepared to the Farmland Mapping and Monitoring Program of the California Resources Agency.
- b. Conflict with existing zoning or agriculture uses, or Williamson Act contract.
- c. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural uses.

Specific References (List a, b, c, etc.): 1, 3

Findings of Significance:

- ? Potential Significant Impact
- ? Potentially Significant Unless Mitigated
- ? Less Than Significant Impact
- x No Impact

3. Air Quality*Project activities likely to create an impact:*

1. Compaction of empty drums and contaminated solid wastes.
2. Storage of hazardous waste including low level mixed waste and combined waste in containers.
3. Consolidation and commingling of similar wastes in containers.

Description of Environmental Setting:

Sandia is located in the southeastern portion of the Livermore Valley and is surrounded by hills ranging from 900 to 1800 feet above the valley foot. The region of influence for Sandia is the Livermore Valley basin. The topography surrounding Sandia helps to channel air pollutants through the valley. In the summertime, it is common for the Livermore Valley to experience temperatures higher than coastal areas such as San Francisco. In the winter, temperatures in the valley are usually cooler than at the coast. The climate, at the inland valleys like Livermore, is characterized by extreme temperatures and more sunshine than the coastal San Francisco region. Summer thunderstorms are infrequent, and tornadoes and hail are rare. The surrounding hills, with high temperatures in the summer, could favor ozone formation in the valley.

The sea breeze is not as prevalent in winter because the differential heating between the coast and San Joaquin Valley is minimal. The predominant wind direction frequency in Livermore is from the southwest and the maximum wind speeds occur from this direction (see Figure 4, Wind Rose). The windiest months occur in the spring. Summer months are dominated by the westerly sea breezes. The winds during the fall and winter are typically lighter and more varied in direction. Although temperatures can drop below freezing, measurable snowfall is extremely rare in Livermore. Winter weather conditions combined with the valley topography can create strong surface based inversions, which can trap pollutants at the surface, leading to high air pollution episodes.

The California Air Resources Board has designated the San Francisco Bay Area as non attainment for ozone and PM₁₀. Pollutant monitoring results near Sandia indicate the air quality in the Livermore area has generally been good.

The federal government and the State of California have established Ambient Air Quality Standards for the following criteria pollutants: ozone (O₃), carbon dioxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and respirable particulate matter (PM₁₀). Regional monitoring stations that measures ambient concentrations of the criteria pollutants are operated by the Bay Area Air Quality Management District (BAAQMD). Pollutant monitoring results near Sandia indicate that the air quality in the Livermore area has generally been good. Table 1 shows the criteria pollutants data collected at the Livermore station from 1998 to 2001. The 1-hour ozone California standard was exceeded for the period 1998 through 2001 while the national standard was exceeded in 1999 and 2000. There were 21 days during the year 1998, 14 days in 1999, 7 days in 2000 and 9 days in 2001 for which the station recorded ozone in excess of California standards. The national standard for ozone was exceeded 6 times in 1998, 2 times in 1999 and 2000. The national standard for ozone was never exceeded in 2001. The average 24-hour particulate matter California standard was exceeded in 1999, 2000, and 2001 while the national standard was never exceeded. There were 2 days during the year 1998, 3 days in 1999, 2 days in 2000, and 3 days in 2001 for which the station recorded particulate matter in excess of California standards. Concentrations of the remaining criteria pollutants are below the California and National Standards.

Operational activities being considered at Sandia are limited to storage and treatment of hazardous wastes generated onsite. Hazardous wastes are stored in 55-gallon or smaller containers in different bays of Building 9611. Low level mixed wastes and combined wastes are stored in Building 961. Air emission is controlled by a HEPA filter at the end of the exhaust fans in Building 961 and Building 9611. The Hazardous Waste Facility Permit (Permit) requires Sandia to close the lid of the drum at all times except when filling up thereby reducing any emission which may be contributed by the storage of hazardous waste in containers. Empty drums and solid hazardous wastes are compacted to reduce the volume of waste. Operation of the compactors is regulated by a permit from the BAAQMD.

Table 1. Summary of air quality in Livermore						
Pollutant	California Standard	National Standard	1998	1999	2000	2001
Ozone	9 pphm (1-hr average)	12 pphm (1-hr average)	15	15	15	11
Carbon Monoxide (CO)	9 ppm (8-hr average)	9 ppm (8-hr average)	2.4-	5.2	4.5	5.8
Nitrogen Dioxide (NO ₂)	25 pphm (1-hr average)	-	7-	9	7	7
Sulfur Dioxide (SO ₂)	40 ppb (24-hr average)	140 ppb (24-hr average)	-	-	-	-
Particulate Matter (less than 10 microns) (PM ₁₀)	30 ug/m ³ (ann geo mean)		19.4-	22.7	19.4	21.1
	50 ug/m ³ (24-hr average)	150 ug/m ³ (24-hr average)	-	87	71	109

Source: Annual Bay Area Air Quality Summaries <http://www.baaqmd.gov/pio/aqsummaries>

Analysis of Potential Impact:

- a. Conflict with or obstruct implementation of the applicable air quality plan.

This project will not conflict with or obstruct implementation of the applicable air quality plan. The project is to allow continued management of hazardous waste inside two buildings or outdoor closed containers. The project is not expected to alter air movement, moisture, temperature, or contribute to any change in climate, either locally or regionally. It does not involve activities that could reasonably be expected to create objectionable odors or result in substantial emissions. It is located within the jurisdiction of the BAAQMD for emission sources under the Clean Air Act of 1970 and the State Ambient Air Quality Standards. Sandia has a permit from the BAAQMD for its operation of the compactors and does not conflict or obstruct the implementation of applicable air quality plan.

- b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

The project will not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Pollutant monitoring in Livermore indicated that the air quality in the area has generally been good. The wastes are stored in closed containers and treated inside buildings; therefore, the project does not generate objectionable odors or emissions. To prevent escape of any air emission from activities related to storage of hazardous waste, drums or containers will be kept closed except when filling up. Any emission created by the storage of wastes in containers and by the operation of the compactors is abated prior to discharge to the atmosphere by having an exhaust system with a high efficiency filter.

- c. Result in cumulative considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

Ozone, on hot summer days, is the criteria pollutant for which Livermore valley is occasionally non-attainment under the applicable federal or state ambient air quality standard. In general, however, air in the Bay Area meets the national 1-hour ozone standard more than 99.9% of the time. The major ozone precursors are volatile organic compounds (VOCs) and oxides of nitrogen. Sandia does not generate oxides of nitrogen; these are emitted from the operation of motor vehicles. Emission of any VOCs at Sandia is controlled by a HEPA filter at the end of the exhaust fans in Building 961 and Building 9611. To prevent escape of any air emission from activities related to storage of hazardous waste, drums and containers will be kept closed except when filling up. Any emission created by the operation of compactors is abated prior to discharge to the atmosphere by having an exhaust system with a high efficiency filter. Therefore, the project will not result in cumulatively considerable net increase of ozone precursors.

- d. Expose sensitive receptors to substantial pollutant concentrations.

Sensitive receptors are schools and day care centers. There are no sensitive receptors within a quarter of a mile from the Hazardous Waste Storage and Treatment Facility (HWSTF). Steivers Academy is about one mile from the HWSTF while Almond Elementary School is located 3½ miles west of Sandia site. (See also Hazards and Hazardous Materials).

- e. Create objectionable odors affecting a substantial number of people.

The HWSTF is located in the middle of Sandia site, away from substantial number of people. The wastes are stored in closed containers and treated inside buildings; therefore, the project does not generate objectionable odors. In addition, Building 961 and Building 9611 have an exhaust system with high efficiency filter which will abate any emission to the atmosphere.

- f. Result in human exposure to Naturally Occurring Asbestos (see also Geology and Soils. f)

The project does not involve any grading or excavation of the site. Therefore project activities will not result in human exposure to Naturally Occurring Asbestos.

Specific References (List a, b, c, etc.): 1, 3, 4, 5, 6

Findings of Significance:

? Potential Significant Impact
? Potentially Significant Unless Mitigated
x Less Than Significant Impact
? No Impact

4. Biological Resources

Project activities likely to create an impact: None

Description of Environmental Setting:

Sandia is located on 413 acres of land, with approximately 130 acres currently developed for use as research facilities, offices, support facilities, roadways, and parking areas. The Arroyo Seco (formerly named Muddy Creek) watercourse is present at the site and traverses from southeast to northwest. It is a seasonal stream. The area is characterized by perennial grasses and scattered oak woodland. Willow riparian vegetation, of approximately 2.4 acres, is present along the eastern portion of Arroyo Seco. The only undeveloped area of Sandia is the buffer zone located on the east, south and west sides of the property. This buffer zone is approximately 1000 feet east of the project, 2000 feet west of the project and 3000 feet south of the project. Grasslands, coyote brush, and riparian woodland have been identified in this buffer zone. Grassland comprises 226 acres and represents the predominant habitat in this open, undeveloped area.

The project is composed of Building 961, Building 9611 and its facility yard. The main activities related to the hazardous waste storage and treatment are located inside the roof covered buildings. The flooring is made of concrete with epoxy coating. The facility yard or the surrounding area is completely paved with asphalt and concrete. No rare or endangered species of plants exist in these areas. The proposed project does not involve changing the diversity or destroying any trees, shrubs, grass, crops, aquatic plants and animals. There are no habitats of potential concern at the project site. No rare or endangered species or plants exist in these areas. A RareFind Report which listed protected plants and animals in the general geographic area is attached as a reference (Reference 7, RareFind Report for Altamont Quadrangle).

For biological resources at Sandia, the affected environment consists of the plant and animal species within the boundaries of Sandia's buffer zone (see Figure 3, Site Map). It includes terrestrial resources, aquatic resources, wetlands, and protected and sensitive species. The wetland area of Sandia is a seasonal marsh occupying 0.44 acres. It is approximately 1,370 feet of the Arroyo Seco Channel starting several hundred feet west of Thunderbird Lane and extending east to the property boundary. The wetland is approximately 8 feet wide except near the property boundary where it averages 20 to 30 feet wide.

Common non-native grasses include ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), wild oats (*Avena sp.*) and Mediterranean barley (*Hordeum marinum*). Common non-native herbs include red maids (*calandrinia ciliate*), bur clover (*Medicago polymorpha*), and cheeseweed (*Malva sp.*). Patches of native wildflowers are also observed in the grassland habitat which includes Brodiaea (*Brodineia sp.*) California Poppy (*Escholzia californica*), Blue Dicks (*Dishelostemma capitatum*), Farewell to Spring (*Clarkia purpurea*), Mature Valley Oaks (*Quercus lobata*) and Valley Oak Saplings.

The total coyote brush habitat is approximately 1.5 acres. It is located in steep and generally inaccessible areas where disturbance from site activities would be unlikely. Coyote brush is present in the southwest corner of Sandia and near the Arroyo Seco on the eastern property boundary.

Birds are the most abundant group of vertebrates present at Sandia's buffer zone. It includes mallard, American coot, turkey vulture, American kestrel, mourning dove, northern flicker, American crow, Americana robin, red-winged blackbird, brown-headed cowbird, brewer's blackbird, white crowned sparrow, song sparrow, house finch, lesser goldfinch and European starling.

Common mammals sighted at Sandia's buffer zone include fox squirrel, California ground squirrel, feral cat, desert cottontail rabbit, black-tailed jack rabbit, coyote, rd fox, gray fox, striped skunk and opossum. None of the observed species have protection under the Endangered Species Act.

Cattail and rush are among the most common plant species in the recharge basin on Sandia property in the west buffer zone. This recharge basin, of about 2.7 acres, serves as an aquatic habitat. Table 2 lists the Federal and California species with protected or sensitive status that have been reported at or near Sandia but not on the project site.

Table 2. Federal and California Species with Protected or Sensitive Status Reported At or In the Vicinity of Sandia National Laboratories, California			
Common Name & Scientific Names	Found Onsite	Federal Status	State Status
Amphibians and Reptiles			
California Tiger Salamander (<i>Ambystoma californiense</i>)	Yes	Candidate for Listing	Species of Special Concern
California Re-legged Frog (<i>Rana aurora draytonii</i>)	No	Threatened	
Alameda Whipsnake (<i>masticophis lateralis euryxanthus</i>)	No	Threatened	Threatened
Birds			
Western Burrowing Owl (<i>Athene cunicularia</i>)	Yes	Migratory Bird Treaty Act	Species of Special Concern
Loggerhead Shrike (<i>Lanius ludovicianus</i>)	Yes	Migratory Bird Treaty Act	Species of Special Concern
White-tailed Kite (<i>Elanus leucurus</i>)	Yes	Migratory Bird Treaty Act	Fully Protected
Golden Eagle (<i>Aquila chrysaetos</i>)	Yes	Migratory Bird Treaty Act	Species of Special Concern
Northern Harrier (<i>Circus cooperii</i>)	Yes	Migratory Bird Treaty Act	Species of Special Concern
Ferruginous Hawk (<i>Buteo regalis</i>)	Yes	Migratory Bird Treaty Act	Species of Special Concern
Red-tailed hawk (<i>Buteo jamaicensis</i>)	Yes	Migratory Bird Treaty Act	Species of Special Concern
Mammals			
San Joaquin Kit Fox (<i>Vulpes macrotis mutica</i>)	No	Endangered	Threatened
Mountain Lion (<i>Felis concolor californica</i>)	Yes	None	Special protected mammal

Source: Taken from Final Site-Wide Environmental Assessment of Sandia National Laboratories, January 2003

The project is to allow continued hazardous waste storage in closed containers and treatment inside two buildings, and does not involve new constructions. Therefore this project will not contribute to erosion or sedimentation or change to any vegetation or water resources which will individually or cumulatively result in loss of biological diversity among plants and animals. The project will not result in change in diversity of species or numbers of any species of plants or have effects on listed, threatened and endangered species and their habitats because the facility has procedures in place that will control escape of hazardous waste to the ground, surface water or atmosphere thereby protecting the habitats in the vicinity.

No hydrologic indicators or wetland conditions were observed within the project site. Since no wetland conditions were encountered within the project site, the aquatic plant life (native or non-native, rare and unique,

listed threatened and endangered) will not be impacted. The project site is paved with asphalt and cement in or around the site.

DTSC does not expect this project to have any impacts to any biological resources, so no further analysis is required, other than specific questions required under Section 711.4 of the Fish and Game Code, see below.

Analysis of Potential Impact: Describe to what extent project activities would:

a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

The project is to allow continued hazardous wastes storage in closed containers and treatment inside two buildings. The project area is paved with asphalt and cement. No hydraulic indicators or wetland conditions were observed within the project area. Since no wetland conditions were encountered within the project area, the aquatic plant life (native or non-native, rare and unique, listed, threatened and endangered) will not be impacted. Therefore the project will not contribute to erosion or sediment or change to any vegetation or water resources which will individually or cumulatively result in loss of biological diversity among plants and animals.

The project will not result in change in diversity of species or numbers of any species of plants or have effects on listed, threatened and endangered species and their habitats because the facility has procedures in place that will control releases or escape of hazardous waste to the ground, surface or atmosphere thereby protecting the habitats in the vicinity.

Therefore the project will not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

The project will not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

See response a. above

c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

The project will not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

See response a. above

d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

The project will no interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

See response a. above

e. Conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

The project will not conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

See response a. above

f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

See response a. above

Specific References (List a, b, c, etc.): 1, 7

Findings of Significance:

? Potential Significant Impact

? Potentially Significant Unless Mitigated

? Less Than Significant Impact

X No Impact

5. Cultural Resources

Project activities likely to create an impact: None

Description of Environmental Setting:

Cultural resources are prehistoric or historic archeological sites, buildings, structures, districts, objects, or places considered important to a culture or community. It could also include those that have been recommended for inclusion in the National Register of Historic Places (NRHP) or are religious or sacred sites.

In 1990, Sandia conducted an assessment of cultural resources which included a review of literature and official documents, field inventories and consultation with the California Native American Heritage Commission. No prehistoric resources, Native American resources, or historic archeological sites were identified at Sandia site. No buried archeological sites have been discovered at Sandia. An in-depth historic building survey conducted in 2001 found that none of the buildings or structures identified on the site was historically significant or eligible for NRHP.

The state and federal inventories do not identify any historic property within the project site. The project is an existing operation and does not involve any new construction or surface disruption at the site. DTSC determines that the project will not have any impacts on the cultural resources, and thus no additional analysis is required.

Analysis of Potential Impact: Describe to what extent project activities would:

a. Cause a substantial adverse change in the significance of a historical resource as defined in 15064.5

b. Cause a substantial adverse change in the significance of an archeological resource pursuant to 15064.5

- c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
- d. Disturb any human remains, including those interred outside of formal cemeteries.

Specific References (List a, b, c, etc.): 3

Findings of Significance:

? Potential Significant Impact
? Potentially Significant Unless Mitigated
? Less Than Significant Impact
X No Impact

6. Geology and Soil

Project activities likely to create an impact: None

Description of Environmental Setting:

The general project area is situated at the southeast corner of the Livermore Valley in Alameda County, California. Livermore Valley cuts the Diablo Range of central California in an east-west trending topographic and structural depression. The valley forms an irregularly shaped lowland area about 16 miles long east-to-west and 7 to 10 miles wide north-to-south. The floor of the valley slopes to the west at about 20 feet per mile.

The majority of the 413-acre Sandia site is situated on relatively flat terrain with low relief, and slope gently northwest and north. The southern portion is hilly with gentle slopes as it extends into Altamont Hills. Altamont Hills are located to the south and east of the site and is approximately 150 feet above the surrounding land. The elevation of the site ranges from 615 feet (ft) above mean sea level (MSL) in the northwest to approximately 850 ft MSL at the highest point in the south. The Arroyo Seco (formerly named Muddy Creek) watercourse is present at the site and traverses from southeast to northwest (see Figure 3, Site Map). It is a seasonal stream.

A map of the regional structural geology and physiography of the San Francisco Bay Area is presented in Figure 5. The Diablo Range, which includes the Altamont Hills, is part of the northwest-trending Coast Ranges, and parallels three major faults in the area. These include the San Andreas Fault system, the Sur-Nacimiento fault, and the Coast Range Thrust Fault system. These faults can generally be considered to define three different lithologic blocks. As shown in Figure 5, the westernmost block is the Salinian block, which lies west of the San Andreas Fault. Salinian block consists primarily of metamorphic and granitic rock.

The geologic resources found near Sandia include aggregate deposits, fossil occurrences, and petroleum. Several occurrences of potentially economically valuable mineral deposits are within a 10-mile radius of Sandia. These include deposits of manganese, chromium, clay, gemstones, pyrite, dimension stone, sand and gravel, and natural gas. The Livermore oil field just east of Sandia was discovered in 1967. Originally, ten producing wells were operated by Hershey Corporation. These wells are located northeast of Sandia and production is primarily from Miocene Cierbo formation sandstones at depths of 900 to 2,000 feet. Of the original ten wells, five were producing an average of seven barrels of oil per day. Reserves were thought to be approximately 132,000 barrels. In February 2002, only three wells were producing.

The two regional northwest-southeast trending fault zones located closest to Sandia are the Greenville fault zone and the Tesla-Ortogonal fault zones (see Figure 6, Fault lines). San Ramon Valley fault is located approximately 10 miles to the west. South Branch Las Positas fault traverses the southern most section of Sandia. The North Branch Las Positas fault cuts through the center of Sandia site. Greenville fault produced two earthquakes of magnitudes 5.5 and 5.6 on the Richter Scale and caused structural and non-structural damage to the Sandia facilities. The project is located more than 3000 feet away from any active faults.

Sandia consists of two different types of terrain separated by the north branch of the Las Positas fault. The area north of the fault (north of Arroyo Seco) consists of a relatively smooth land surface that gently slopes downward to the northwest. Because of the very low relief, the potential for slope instability on the northern portion of Sandia is remote. The terrain south of Las Positas fault contains greater relief and steeper slopes that increase the potential for slope instability. The potential for slope instability in the southern portion of Sandia is considered moderate.

Surface soils and Arroyo sediments cover the Sandia site. The soils beneath are formed primarily upon sediments deposited by local streams. Most of the sediments in the eastern part of the valley are relatively young, and thus soils are only moderately developed. These soils, generally loam, can be several meters thick. Three types of soils cover most of Sandia: Rincon clay loam, Positas gravelly loam, and Livermore gravelly loam.

Most of waste in Building 9611 are liquid wastes; and most of waste in Building 961 are solid waste. The potential impact to soil created by treatment and storage of hazardous waste is accidental spill. However, measures have been taken to minimize the potential for any spill. All hazardous waste management units are above ground. All waste management activities are conducted inside the building and are not subject to flooding or precipitation. The floor of the building where these waste management activities are conducted is made of concrete and has chemical resistant epoxy coating. Both buildings have secondary spill containment for any potential spill.

Since no active faults are known to underlie Building 961 and Building 9611, the risk to people or property from geologic hazards such as earthquakes, landslides, mudslides, ground failure or similar hazards is expected to be negligible. Activities related to the operation of the Hazardous Waste Storage and Treatment Facility are conducted indoors and will not contribute to any increase in wind or water erosion of the soil. No changes in geologic substructures are expected because this project does not involve any grading or excavation of the site. No contour changes are proposed in this project. As a result, no disruption, displacement or over covering of the soil is expected. Therefore, the potential effect on geology and soil is expected less than significant, and thus no further analysis is required.

Analysis of Potential Impact: Describe to what extent project activities would:

- a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. (Refer to Division of Mines and Geology Special Publication 42).
 - Strong seismic ground shaking.
 - Seismic-related ground failure, including liquefaction.
 - Landslides.
- b. Result in substantial soil erosion or the loss of topsoil.
- c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.
- d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.
- e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of water.

- f. Be located in an area containing naturally occurring asbestos (see also Air Quality, f.).

Specific References (list a, b, c, etc): 1, 3

Findings of Significance:

- ? Potential Significant Impact
- ? Potentially Significant Unless Mitigated
- ? Less Than Significant Impact
- x No Impact

7. Hazards and Hazardous Materials

Project activities likely to create an impact:

Storage and Treatment of Low Level Mixed Waste, Combined Waste and Hazardous Waste

Description of Environmental Setting:

Hazardous wastes, mixed wastes and combined wastes are generated at different locations throughout Sandia's research laboratories, paint shops, and maintenance shops. These wastes are managed by the staff from the Environmental Operations Department of Sandia. These wastes are taken to the Hazardous Waste Storage and Treatment Facility (HWSTF) which is located in the middle of the Sandia site for treatment and storage prior to shipment to off-site disposal facility. Wastes stored at the facility are segregated by hazard classification and only compatible materials are stored together. During the calendar year 2000, there are 27 outbound shipments of hazardous wastes which amount to three shipments of hazardous wastes per month.

Sandia's HWSTF is made up of Building 961 Building 9611 and the facility yard. This facility is bordered by "A" Street in the east, 7th Street in the north, and "C" Street in the west. The whole Sandia site is fenced. The property to the south and east of Sandia site is surrounded by undeveloped land owned by the U.S. Department of Energy. This perimeter is also fenced and serves as buffer zone.

Interstate Highway 580 (I-580) is the east-west access to the regional Interstate system and is approximately 2 miles north of Sandia's boundary. Access to Sandia consists of an urban road network maintained by the City of Livermore. All entrances to Sandia are located along East Avenue. The primary routes to East Avenue are Vasco Road and Greenville Road. All regional traffic to and from Sandia is via I-580, exiting onto Vasco Road or Greenville Road. Traffic enters Sandia through two principal gates off East Avenue. Commercial traffic enters through the East gate for direct access to Sandia's shipping and receiving facilities. An emergency access road connects Sandia to Tesla Road to the south. The nearest school is Almond Elementary School, located 3½ miles west of Sandia.

Staff at the Environmental Operations Department receives training on hazardous waste and radioactive materials handling procedures, emergency procedures, and use of personnel protective equipment annually. The RCRA Part B application provides the detailed training plan and knowledge covered, and the emergency plan with egress routes and emergency equipment.

Analysis of Potential Impact: Describe to what extent project activities would:

- a. Create a significant hazard to the public or the environment throughout the routine transport, use or disposal of hazardous materials.

The project is to allow continued hazardous waste storage in closed containers and treatment inside two buildings, and will not create a significant hazard to the public or the environment throughout the routine transport, use or disposal of hazardous materials.

Transportation activities at Sandia involve the receipt, shipment, and transfer of hazardous and non-hazardous materials and waste. Approximately 1 to 3 shipments per week come in to Sandia from offsite suppliers. Outbound shipment of hazardous wastes from Sandia averages 3 per month. Non-hazardous solid waste is picked up and is trucked to a local landfill once a week. Since the number of trucks coming in and leaving the facility is minimal, activities related to the project will not create a significant hazard to the public or the environment throughout the routine transport, use or disposal of hazardous materials. Furthermore, transporters of hazardous waste must comply with the regulations established in chapter 13, Title 22, California Code of Regulations to avoid release of hazardous waste to the environment.

- b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

The project will not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

According to Sandia National Laboratories, Facilities and Safety Information Document dated March 2002, a wide variety of chemicals in very small quantities are used at Sandia for research and development. The amount listed does not represent a significant concern with respect to human health or the environment. In addition, the Emergency Preparedness Hazards Survey conducted by Sandia identified that Sandia's Hazardous Waste Storage and Treatment Facility (HWSTF) does not have quantities of hazardous materials that if released, would pose a hazard to persons beyond their site boundary. The estimated annual quantity of hazardous waste stored in Building 961 and Building 9611 is listed in Table 3 below. The survey concluded that the HWSTF is low-hazard that does not require accident analysis. However, as part of chemical management strategy, Sandia maintains a centralized Chemical Information System (CIS) for tracking hazardous and non-hazardous chemicals. The CIS serves as the chemical information source of inventory for emergency planning and community Right-to-Know Act Reporting and the California Community Right-to-Know regulations.

Wastes stored at the HWSTF are segregated by hazard classification and only compatible wastes are stored together. The biggest container is a 55-gallon drum and containers are kept closed at all times except when adding or consolidating similar wastes. In the event this container ruptures or spills, there are sumps to contain releases. In the event of fire, the HWSTF has sprinkler system that will help contain the fire before the Fire Department crews arrive. For these reasons, it is unlikely that the activities related to the proposed project will create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

A site-specific health and safety plan prepared in accordance with California Code of Regulations, Title 8, Section 5194 is in place for workers and community protection and emergency response activities. Sandia has a Contingency Plan in place governing the maintenance and operation of its facility. DTSC has determined that implementation of this project has less than significant impact on public health or the environment when Sandia complies with the applicable laws and regulations.

Table 3. Estimated annual quantity of hazardous waste stored in Building 961 and Building 9611		
Building 961	Waste Sources	Estimated Annual Quantity
Scintillation Counter	Research & Development	60 gallons
Low Level Mixed Waste	Research & Development	1,676 gallons
Building 9611		
Coolant	Vehicle Maintenance Machine Shop	1,100 gallons
Aerosols	Facilities Paint Shop	239 gallons
Asbestos	Demolition/Cleanup Activities	64,632 gallons
Batteries	Various Operations	1,856 gallons
Compactable Wastes	Various Operations	5,498 gallons
Acids	Various Operations	660 gallons
Caustics	Various Operations	660 gallons
Empty Drums	Facilities	4,399 gallons
Lab Packs	Various Operations	6,598 gallons
Oil Wastes	Facilities Vehicle Maintenance	1,375 gallons
PCB Wastes	Demolition/Cleanup Activities	220 gallons
Photochemical Waste	Photo Lab	1,759 gallons
Solvents	Various Laboratory Operations	880 gallons
Wastewater	Gun Range Various Operations	55 gallons

- c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school.

The nearest schools to Sandia are Steivers Academy and Almond Elementary School. Both schools are more than a quarter mile from Sandia. Steivers Academy is a private elementary and middle school combination located 4,000 feet west of Sandia. Almond Elementary School is a public school located 3½ miles west of Sandia. Any emission created by the treatment and storage of waste is abated prior to discharge to the atmosphere by having an exhaust system with a high efficiency filter. Therefore, project activities at Sandia which includes handling of acutely hazardous materials, will not emit hazardous emissions within a quarter mile of an existing or proposed school.

- d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to public or the environment.

Research of DTSC's hazardous waste and substance site list showed that Sandia is not included among the so called "Cortese List". As a result, the project activities would not create a significant hazard to public or the environment.

- e. Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.

The project activities would not impair the implementation of or physically interfere with an adopted emergency response or evacuation plan.

The HWSTF is located in the middle of Sandia site in between 7th Street and 4th Street. It can be accessed either from "A" Street or "C" Street from the main entrance to East Avenue. Other roads in Sandia site include Thunderbird Lane, Sandia Drive, and South Portal Drive which can be used in emergency evacuation plan.

Specific References (list a, b, c, etc): 1, 3, 8, and 9

Findings of Significance:

- ? Potential Significant Impact
- ? Potentially Significant Unless Mitigated
- X Less Than Significant Impact
- ? No Impact

8. Hydrology and Water Quality*Project activities likely to create an impact:*

1. Storage of hazardous wastes, low level mixed wastes and combined wastes in containers.
2. Consolidation and commingling of similar wastes in containers.

Description of Environmental Setting:

Sandia is located at the base of Altamont Hills at the southeast end of the Livermore Valley in southern Alameda County. It is 45 miles east of San Francisco, far away from the Pacific Ocean and unreachable by a tsunami, if ever there is any. There are no perennial streams or other natural surface bodies of water at Sandia, which is a reflection of the dry climate of the area. The Arroyo Seco is the only intermittent stream which diagonally traverses the site, entering along the southeast border and leaving the site along the northeast corner (see Figure 3, Site Map). The Arroyo flows only in very wet years and for short period of time after significant storm events. In the eastern part of the Arroyo, an area designated as a wetland is wet well into June and sometimes July. This wetland may supply a small contribution to groundwater recharge, as do other streams in the general area.

Sandia is situated within the Spring and Mocho I sub-basins. The water-bearing sediments in the Livermore Valley include the late-Pleistocene to Holocene-age alluvial sediments less than 200 feet thick. These water-bearing sediments overlie Plio-Pleistocene alluvial and lacustrine Livermore Formation sediments up to 4,000 feet thick. The Livermore Valley consists of beds of gravel, sand, silt, and clay of varying permeability. Sandy-gravelly layers alternate with fine grained, relatively impermeable layers and groundwater can be both confined and semi-confined. The Livermore Valley groundwater basin is recharged from natural stream percolation, artificial stream percolation, aquifer storage, recovery well, rainfall, applied water and subsurface groundwater inflow from adjacent groundwater basins. Stream recharge may contribute up to 65 percent by volume of recharge to basin. At Sandia, Arroyo Seco provides recharge to the groundwater basin. The majority of the recharge would occur in the undeveloped uplands east and southeast of Sandia.

Current depths of groundwater at Sandia varies from approximately 12 feet below ground surface on the south side of North Branch Los Positas fault to 126 feet on the north side of the fault zone (see Figure 6, Fault Lines). Generally, groundwater near Sandia is suitable for use as domestic, municipal, agricultural, and industrial supply. However, industrial and agricultural uses of some shallower groundwater may be limited by marginal quality. Furthermore, groundwater less than about 300 feet deep is usually unsuitable for domestic use without treatment.

Groundwater in Sandia area occurs within the saturated unconsolidated geologic material. Water bearing units beneath Sandia are composed of shallow heterogeneous, unconsolidated alluvium and deep alluvium and deep fluvial and lacustrine sediments. The permeable sediments are separated by low permeability silt and clay layers, about 15 to 60 feet thick. These silt and clay layer may constitute a regional confining layer. The confining layer slopes westward and varies in depth from about 60 feet to 400 feet. Shallow groundwater is continuous throughout the site and has a saturated thickness of about 6 to 8 feet. The general direction of groundwater flow in the shallow aquifer is from the southeast to the northeast, with a hydraulic gradient of about 0.005 feet per foot, a hydraulic conductivity of 0.4 to 14.9 feet per day and a porosity of about 0.30.

Beneath this layer of sand, silt, and gravel is about 12 to 18 feet of stiff clay that acts as an aquiclude (a formation that contains water but cannot transmit it rapidly enough to furnish a significant supply). Below this aquifer are two other water-bearing units that are probably local and not part of the underlying aquifer.

Analysis of Potential Impact: Describe to what extent project activities would:

- a. Violate any water quality standards or waste discharge requirements.

The project will not violate any water quality standards or waste discharge requirements.

Sandia has a Wastewater Management Program that educates staff and researchers on proper wastewater disposal practices. Sandia's policy prohibits discharge of regulated chemical wastes to the sanitary drains. It has a wastewater management control system called the Liquid Effluent Control System (LECS), whereby potentially contaminated laboratory wastewater is routed to retention tanks for analysis and proper disposal. Six LECS units, consisting of 2,000- to 5,000-gallon tanks, serve Sandia's most active laboratories and research processes. The contents of these tanks are sampled and analyzed for metals and pH prior to being discharged to the sanitary sewer system. The liquid effluent from Sandia's sanitary sewer outfall is monitored for regulated physical parameters, metals and EPA priority pollutants as part of compliance to the wastewater discharge permit from the City of Livermore. This permit regulates Sandia's sanitary and industrial effluent, which is discharged to the city's sewer system, and enforces the requirements of the federal Clean Water Act. The permit contains discharge limits for the site sanitary sewer outfall and for processes subject to the EPA's pre-treatment standards for metal finishing and semiconductor manufacturing operation. The activities related to the project do not violate any water quality standards or waste discharge requirements. Furthermore, these activities do not degrade water quality. The project does not create or contribute runoff water nor provide substantial additional sources of polluted runoff.

- b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficient in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

No groundwater is involved in the activities related to the project. Sandia purchases potable water from the adjacent Lawrence Livermore National Laboratories (LLNL) which is supplied by the San Francisco Water District through the Hetchy Hetchy Aqueduct. When needed, water is also supplied by the Alameda County Flood Control and Water Conservation District, Zone 7. Both agencies monitor the quality of incoming water while LLNL maintains the drinking water distribution system for Sandia and LLNL. Since no groundwater is involved in the activities related to the project, groundwater supplies will not be depleted and the project will not interfere with any groundwater recharge.

- c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off-site.

There are no perennial streams or other natural surface bodies of water at Sandia site. The Arroyo Seco is the only intermittent stream which diagonally traverses Sandia site, entering along the southeast border and leaving the Sandia site along the northeast corner (see Figure 4, Site Map). The Arroyo flows only in very wet years and for short period of time and only after a significant storm event. The Sandia's storm water conveyance system transports surface runoff to the Arroyo Seco or to a channel along East Avenue. The channel along East Avenue is predominantly dirt and runoff eventually infiltrates into the ground or evaporates. During heavy storms, the water in the channel flows west and eventually discharges to the Arroyo Seco via an underground-corrugated pipe. Activities related to the project are conducted inside the existing Building 961 and the upgraded Building 9611.

See Response a above.

- d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off-site.

There are no perennial streams or other natural surface bodies of water at Sandia site. The Arroyo Seco is the only intermittent stream which diagonally traverses Sandia site, entering along the southeast border and leaving the Sandia site along the northeast corner (see Figure 3, Site Map). The Arroyo flows only in very wet years and for short period of time and only after a significant storm event. The Sandia's storm water conveyance system transports surface runoff to the Arroyo Seco or to a channel along East Avenue. The channel along East Avenue is predominantly dirt and runoff eventually infiltrates into the ground or evaporates. During heavy storms, the water in the channel flows west and eventually discharges to the Arroyo Seco via an underground-corrugated pipe. Activities related to the project are conducted inside the existing Building 961 and the upgraded Building 9611. Sandia does not have structures which would impede or redirect flood flows. Sandia does not lie in the 100-year flood plain. Livermore rarely experiences severe weather which might cause the Arroyo Seco to overflow. The project activities do not alter the existing drainage pattern of the site or area, including the alteration of the course or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off-site.

- e. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.

The project is to allow continued hazardous waste storage in closed containers and treatment inside two buildings. Sandia has operated at this location since 1993 and no significant environmental incidents have occurred during its operation. No wastes are discharged into the air or land from this facility. Management practices, operating procedures and an inspection program in the facility operation plan will help ensure that there are no releases to the environment. Project activities do not create nor contribute to runoff water which would exceed the capacity of the existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.

- f. Otherwise substantially degrade water quality.

The project is to allow continued hazardous waste storage in closed containers and treatment inside two buildings. Sandia has operated at this location since 1993 and no significant environmental incidents have occurred during its operation. No wastes are discharged into the air or land from this facility. Management practices, operating procedures and an inspection program in the facility operation plan will help ensure that there are no releases to the environment. The activities related to the project do not violate any water quality standards or waste discharge requirements. Furthermore, these activities do not degrade water quality

- g. Place within a 100-flood hazard area structures which would impede or redirect flood flows.

Sandia does not lie in the 100-year flood plain and Livermore rarely experiences severe weather which might cause the Arroyo Seco to overflow. According to records, thunderstorms occur five or fewer days per year. The peak discharge of the Arroyo Seco for a 2-year flood is estimated to be 100 cubic feet per second (cfs). The peak discharge of a 100-year flood is estimated to be 2000 cfs. Since Sandia is not within a 100-flood hazard area, Building 961 and Building 9611 structures would not impede or redirect flood flows.

- h. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

There are no levees or dam in the vicinity of Sandia which could result in exposing people or structures to risk of loss, injury or death involving flooding as a result of the failure or the levee or dam. Sandia does not lie in the 100-year flood plain and Livermore rarely experiences severe weather which might

cause the Arroyo Seco to overflow. According to records, thunderstorms occur five or fewer days per year. The peak discharge of the Arroyo Seco for a 2-year flood is estimated to be 100 cubic feet per second (cfs). The peak discharge of a 100-year flood is estimated to be 2000 cfs. Both Building 961 and Building 9611 have roofing and have more than the mandatory (100 % of the largest container or 10 % of the aggregate containers) secondary containment and protection from rainfall, or run-on. It is unlikely that the project activities would result to exposure of people or structures to a significant risk or loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

i. Inundation by sieche, tsunami or mudflow.

Sandia is located at the base of Altamont Hills at the southeast end of the Livermore Valley in southern Alameda County. It is 45 miles east of San Francisco, far away from the Pacific Ocean and unreachable by a tsunami, if ever there is any. Lake Del Valle is about four miles southwest of Sandia site with mountain ranges or hills separating it from the Livermore Valley floor. Sandia site is unreachable by sieche or waves that could form as a result of seismic or atmospheric disturbances from lakes. There are no perennial streams or other natural surface bodies of water at Sandia. The Arroyo Seco is the only intermittent stream which diagonally traverses the site entering along the southeast border and leaving the site along the northeast corner (see Figure 3, Site Map). The Arroyo flows only in very wet years and for short period of time after significant storm events. Hence, mudflow at the project site is highly unlikely.

Specific References (list a, b, c, etc): 1, 3

Findings of Significance:

? Potential Significant Impact
? Potentially Significant Unless Mitigated
X Less Than Significant Impact
? No Impact

9. Land Use and Planning

Project activities likely to create an impact: None

Description of Environmental Setting:

Land use in the region surrounding Sandia National Laboratories (Sandia) is governed by the City of Livermore and the County of Alameda planning and zoning regulations. Sandia is situated within the sphere of influence of the City of Livermore, but not within the incorporated area of the City of Livermore. The U.S. Department of Energy owns the land where Sandia National Laboratories (Sandia) was built. Since the proposed project is located on federally owned land outside the incorporated area of the City of Livermore, it is not subject to local land use permits.

There is a buffer zone of about 175 acres located between the security fence and the outer boundary fence. It surrounds the western, southern, and eastern edges of the developed areas of Sandia. It ranges in width from 600 to 1,200 feet. This buffer zone provides facility security for Sandia and ensures that an adequate safety zone exists for the physical protection of the public.

The primary land use at Sandia fits into the category of industrial and research park uses. Land use at the site includes buildings and structures, infrastructure systems (water, sewer, gas and electrical), a firing range, roadways, parking areas, and landscaping. Some facilities at Sandia are administrative offices. Spaces between buildings are landscaped or used as paved service areas, roads, or sidewalks. Parking areas are clustered along East Avenue, the entrance to Sandia.

To the east and south of Sandia is agricultural. East of Sandia is Greenville Road and a hilly area used for cattle grazing. The South Bay Aqueduct is located between the Sandia boundary and Greenville Road. A private residence is located approximately 4,500 feet near the southeastern corner of the project site, between the aqueduct and the site boundary fence. The area south of the site is primarily vineyards with residences or buildings that are used for activities such as wine tasting, parties, and dining. West of Sandia is the City of Livermore and Vasco Road. Various private landowners own the property on this side of the site. In the area between Vasco Road and west boundary of Sandia is a mix of rural residential and agricultural use, including an elementary school, Steivers Academy, which is approximately 4000 feet away. This area is currently zoned as single family residential with construction that has started in 2002. To the west of Vasco Road, the present and proposed uses are residential and light industrial.

There are three private utility easements which cross the southern end of Sandia. Chevron-Texaco has an easement for an underground oil pipeline. Pacific Gas and Electric Company has easements for an overhead high voltage electric power transmission line and an underground high pressure gas pipeline.

Since the proposed project is located on federally owned land outside the incorporated area of the City of Livermore, it is not subject to local land use permits. In addition, the primary land use at Sandia fits into the category of industrial and research park uses. For these reasons, DTSC finds that the proposed project will not result in impacts upon this resource category, and thus no additional analysis is required. See also comments under Agricultural Resources.

Analysis of Potential Impact: Describe to what extent project activities would:

- a. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
- b. Conflict with any applicable habitat conservation plan or natural community conservation plan.

Specific References (list a, b, c, etc): 1, 3

Findings of Significance:

? Potential Significant Impact
? Potentially Significant Unless Mitigated
? Less Than Significant Impact
X No Impact

10. Mineral Resources

Project activities likely to create an impact: None

Description of Environmental Setting:

The potential stone and aggregate resources of the eastern Livermore Valley and western San Joaquin County were assessed in 1987 and 1988. According to the report developed by the California Department of Conservation, Division of Mines and Geology, an estimated 3.8 billion tons of aggregate reserves are available within the southern San Francisco Bay region, while the total aggregate reserves available within the Livermore Valley area amount to 676 million tons; however, much of the area is currently developed for other land uses and none of these are in the Sandia site. Several occurrences of other potentially economically valuable mineral deposits are within a 10-mile radius of Sandia site. These include deposits of manganese, chromium, clay, gemstones, pyrite, dimension stone, sand and gravel, and natural gas.

The only Livermore oil field in the Livermore-San Ramon Valley was discovered in 1967 northeast of Sandia site. This oil field, consisting of ten original producing wells, was originally operated by the Hershey

Corporation, followed by the American Exploration Corporation and then by the XL Operating Company. Currently, no oil or gas exploration is proposed for the Livermore Valley or in the hills to the east of Sandia site. The closest gas field is located 15 miles east of Sandia near the city of Tracy.

Building 961 and Building 9611 are structures surrounded by asphalt and concrete yard. Both buildings are located in the middle of the Sandia site. No construction, dismantling, excavation, or grading is proposed with this project. Consequently, the project will not result in the loss of availability of any known mineral resource of value to the region. No additional analysis of impacts to this resource category is needed.

Analysis of Potential Impact: Describe to what extent project activities would:

- a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Specific References (list a, b, c, etc):

Findings of Significance: 1, 3

? Potential Significant Impact

? Potentially Significant Unless Mitigated

? Less Than Significant Impact

X No Impact

11. Noise

Project activities likely to create an impact: None

Description of Environmental Setting:

Sandia is located in a setting typical of a research and development facility. The whole facility is surrounded on all sides by undeveloped land which serves as buffer zone. The property to the south and east of the facility beyond the buffer zone is made up of agricultural and low density residential areas. The area to the west is principally residential and encompasses a wide range of uses, which include a business park, grazing lands, vineyards and other small agricultural and industrial developments. Across the street to the north of Sandia is Lawrence Livermore National Laboratory and further north is an expanding business park and commercial development. Ambient noise sources include onsite vehicular traffic and stationary sources such as generators, cooling systems, transformers, engines, pumps, and fans.

The County of Alameda has an established noise/land use compatibility standards for noise sensitive and commercial noise sources. The daytime (7 a.m. to 10 p.m.) exterior noise level allowed for noise sensitive area sources, which include residences, schools, hospitals, churches and public libraries, is 65 dBA (a weighted decibels) for one minute in any one hour period; for nighttime (10 p.m. to 7 a.m.), exterior noise level is 60 dBA for one minute in any one hour period. For commercial area sources, the exterior noise level allowed during daytime (7 a.m. to 10 p.m.) is 80 dBA for one minute in any one hour period while the nighttime (10 p.m. to 7 a.m.) exterior noise level allowed is 75 dBA for one minute in any one hour period.

The operations at the hazardous waste storage and treatment facility involve the use of vehicles such as forklift or trucks. Mixed waste and combined waste are usually moved into storage a few times per week, while shipment off-site generally does not exceed approximately three times a month.

Sandia conducted a sound level measurement at the corner of 7th Street and "C" Street in April 2001. The results of the study showed that from 7 a.m. to 10 p.m., the noise level at this intersection averaged 59.2 dBA.

At nighttime (10 p.m. to 7 a.m.), the average noise level at this intersection was 42 dBA. The activities related to the storage and treatment facility for Sandia is confined inside Building 961 and Building 9611, so the noise level contributed to the surrounding area is insignificant. Storage of hazardous waste in containers does not create significant noise. Compaction of drums and solid wastes is usually done once a week and only during the 8 a.m. to 5 p.m. working hours.

The project allows for continued hazardous waste storage in closed containers and treatment inside two buildings and will not involve excavation, therefore, persons are not exposed to excessive groundbourne vibration or groundbourne noise levels. Storage and treatment of hazardous waste are part of the housekeeping activities at this facility and does not create significant noise. When compactors are used in the building, operators are protected from noise by using ear plugs. Preventative measures such as ear plugs or mufflers are available for the operating personnel. A site-specific health and safety plan, prepared in accordance with California Code of Regulations, title 8, Section 5194, is in place which addresses the workers' protection from any levels of noise. DTSC determines that the project will not have any impacts on this resource category, and thus no additional analysis is needed.

Analysis of Potential Impact: Describe to what extent project activities would:

- a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- b. Exposure of persons to or generation of excessive groundbourne vibration or groundbourne noise levels.
- c. A substantial permanent increase in ambient noise levels in the vicinity above levels existing without the project.
- d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Specific References (a, b, c, etc): 1, 3, 10, 11

Findings of Significance:

? Potential Significant Impact
? Potentially Significant Unless Mitigated
? Less Than Significant Impact
X No Impact

12. Population and Housing

Project activities likely to create an impact: None

Description of Environmental Setting:

Livermore is a city of 75,735 residents. The local school district is the Livermore Valley Joint Unified School District and includes schools from kindergarten through high school. The local school district serves over 10,000 students from a 240-square mile area that includes the City of Livermore. It is estimated that about 200 students from Sandia employees attends the district schools.

Sandia has 900 full-time employees, 110 part-time and limited term employees and hires approximately 50 staff members per year, predominantly scientist and engineers. Staff from the Environmental Operations Department, who manages the project, comprises of 10 to 12 people at any given time. No additional staff is needed to continue the operation of the hazardous waste storage and treatment facility. This project will not

require, involve or result in any change in the need or availability of housing at the area. This project will not contribute to increase in population in the area. Therefore, this project will have no impact on population and housing.

The project allows for continued hazardous waste storage in closed containers and treatment inside two buildings. No additional staff is needed to manage the hazardous waste storage and treatment facility. This project will not contribute to increase in population in the area and impact existing off-site housing. Therefore, this project will not impact the population and housing, and no additional analysis is required.

Analysis of Potential Impact: Describe to what extent project activities would:

- a. Induce substantial population growth in area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
- b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.
- c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Specific References (list a, b, c, etc): 1, 3

Findings of Significance:

? Potential Significant Impact
? Potentially Significant Unless Mitigated
? Less Than Significant Impact
X No Impact

13. Public Services

Project activities likely to create an impact: None

Description of Environmental Setting:

The City of Livermore Public Services Department is comprised of four divisions, namely: the Airport Division, Golf Division, Maintenance Services Division and the Water Resources Division. The Airport Division is responsible for the operation and maintenance of the Livermore Municipal Airport which serves private, business and corporate tenants and customers. The Golf Division is responsible for the operation and maintenance of Las Positas and Springtown Municipal Golf courses. The Maintenance Division is responsible for street maintenance, facilities maintenance, traffic signals/markings, park, trees, street sweeping, street lighting, and fleet services. The Water Resources Division is responsible for the city's three utilities: water, wastewater and storm water.

The Water Utility delivers water to more than 18,500 Livermore residents. The Wastewater Utility treats all of the sewage in the City of Livermore and then sends the treated wastewater (which is not reclaimed for reuse) through the Livermore Amador Valley Water Management pipeline to the East Bay Dischargers Authority in San Leandro. The Stormwater Utility operates and maintains the City Stormwater collection system and administers the countywide stormwater permit. Sandia has an existing Wastewater Discharge Permit from the City of Livermore. The permit puts limits on wastewater being discharge from Sandia.

Sandia has a memorandum of understanding with the Lawrence Livermore National Laboratories (LLNL) Fire Station No. 1 for fire protection services. LLNL fire department provides the primary emergency response to Sandia. It responds to all calls from Sandia's Central Alarm Station which is manned 24 hours a day, 365 days a year. Sandia has its own onsite security force that is responsible for its own security. The security force's

Security Supervisor is the primary liaison between the LLNL security force, the Alameda County Sheriff's Department, and the Livermore Police Department. The need for police servicing from the City of Livermore is infrequent, about once a year.

The project allows for continued hazardous waste storage in closed containers and treatment inside two buildings and does not require any increase in the existing public services provided by the City of Livermore. No additional staff is needed to manage the project. Hence, the project will not contribute to increase in demand for public services. Therefore, the project will not have impact on public services at the area, and thus no additional analysis is required.

Analysis of Potential Impact: Describe to what extent project activities would:

- a. Result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:
- Fire protection
 - Police protection
 - Schools
 - Parks
 - Other public facilities

Specific References (list a, b, c, etc): 1, 3, and 12

Findings of Significance:

? Potential Significant Impact
? Potentially Significant Unless Mitigated
? Less Than Significant Impact
X No Impact

14. Recreation

Project activities likely to create an impact: None

Description of Environmental Setting:

The project allows for continued hazardous waste storage in closed containers and treatment inside two buildings. No additional staff is needed to manage the project. Hence, the project will not contribute to increase in population in the area. Therefore, the project will not impact the resources in recreation, and thus no additional analysis is required.

Analysis of Potential Impact: Describe to what extent project activities would:

- a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- b. Include recreational facilities or require construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Specific References (list a, b, c, etc): 1, 3, 13

Findings of Significance:

- ? Potential Significant Impact
- ? Potentially Significant Unless Mitigated
- ? Less Than Significant Impact
- X No Impact

15. Transportation and Traffic

Project activities likely to create an impact:

Off-site transport of containerized waste via truck to permitted hazardous waste disposal and treatment facility or licensed low-level radioactive waste or mixed waste repository.

Description of Environmental Setting:

Transportation activities for the proposed project at Sandia involve the receipt, shipment, and transfer of hazardous and non-hazardous materials and waste. Onsite vehicular traffic is comprised of General Services Administration vehicles, such as cars, light trucks, gasoline and electric carts, medium duty trucks, forklifts, cranes, and other equipment. Other vehicular traffic includes delivery trucks which are generally routed to shipping and receiving facilities and vehicles owned by contractors authorized to work at Sandia's projects. Approximately 1 to 3 shipments per week come in to Sandia from offsite suppliers. Outbound shipment of hazardous wastes from Sandia averages 2 to 3 per month. Non-hazardous solid waste is picked up and is trucked to a local landfill once a week.

Interstate highway 580 (I-580) is the principal highway which connects Sandia to the neighboring cities of the San Francisco Bay Area. I-580 is the east-west access to the regional Interstate system and is approximately 2 miles north of Sandia's boundary. Access to Sandia consists of an urban road network maintained by the City of Livermore. All entrances to Sandia are located along East Avenue. The primary routes to East Avenue are Vasco Road and Greenville Road. All regional traffic to and from Sandia is via I-580, exiting onto Vasco Road or Greenville Road. Traffic enters Sandia through two principal gates off East Avenue. Commercial traffic enters through the East gate for direct access to Sandia's shipping and receiving facilities. An emergency access road connects Sandia to Tesla Road to the south.

Sandia maintains approximately 6.2 miles of paved and unpaved roads, approximately 4 acres of pedestrian malls, approximately 5.5 acres of paved service areas, and approximately 12.7 acres of paved parking areas. A traffic survey conducted in 2002 estimated that employee related traffic entering Sandia is between 700 to 1,000 commuters per day. Sandia is served by three international airports for commercial passenger and air freight services. These airports are San Francisco (approximately 50 road miles west), Oakland (approximately 33 road miles west), and San Jose (approximately 32 road miles south). The closest airport to Sandia is the Livermore Municipal Airport. This airport is not used for commercial passenger traffic but Sandia's personnel fly into this airport using small government jet. Rail facilities are not available on Sandia.

Data reported in the Final Site-Wide Assessment for Sandia indicated that Vasco Road's average annual daily traffic in 2001 was 145,000 vehicles while that of Greenville Road was 117,000 vehicles. Sandia's commuters would represent less than 1.1 percent.

Analysis of Potential Impact: Describe to what extent project activities would:

- a. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections).

The project allows for continued hazardous waste storage in closed containers and treatment inside two buildings and will not entail an increase in the existing employee base. Therefore, activities related to the project will not cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system.

- b. Exceed, either individually or cumulatively, a level of service standard established by the country congestion management agency for designated roads or highway.

The project allows for continued hazardous waste storage in closed containers and treatment inside two buildings. Transportation activities for the proposed project involve the receipt, shipment, and transfer of hazardous wastes. Onsite vehicular traffic is comprised of General Services Administration vehicles, such as cars, light trucks, gasoline and electric cars, medium duty trucks, forklifts, cranes and other equipment. Other vehicular traffic includes delivery trucks which are generally routed to shipping and receiving facilities and vehicles owned by contractors authorized to work at Sandia's project. The proposed project does not entail an increase in the existing employee base. Therefore, activities related to the project will not cause an increase in traffic, individually or cumulatively and contribute to exceeding the level of service standard established by the country congestion management agency for Vasco Road and Greenville Road.

- c. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

The project allows for continued hazardous waste storage in closed containers and treatment inside two buildings. It does not involve building roads, sharp curves or dangerous intersections. The replacement Building 9611 provides for safer working environment for the forklift operator to move the wastes to proper location within the building. Activities related to the project will not create hazards due to design features.

- d. Result in inadequate emergency access.

The project allows for continued hazardous waste storage in closed containers and treatment inside two buildings. Access to Sandia consists of an urban road network maintained by the City of Livermore. All entrances to Sandia are located along East Avenue. The primary routes to East Avenue are Vasco Road and Greenville Road. All regional traffic to and from Sandia is via I-580, exiting onto Vasco road or Greenville Road. Traffic enters Sandia through two gates off East Avenue. Commercial traffic enters through the East gate for direct access to Sandia's shipping and receiving facilities. An emergency access road connects Sandia to Tesla Road to the south. Activities related to the project will not result in inadequate emergency access.

- e. Result in inadequate parking capacity.

A traffic survey conducted in 2002 estimated that employee related traffic entering Sandia is between 700 to 1,000 commuters per day. The project allows for continued hazardous waste storage in closed containers and treatment inside two buildings, and will not entail an increase in the existing employee base. Therefore, no demand for new parking will be generated by the continued operation of the Hazardous Waste Storage and Treatment Facility. Activities related to the project will not result in inadequate parking capacity.

- f. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

The project allows for continued hazardous waste storage in closed containers and treatment inside two buildings and does not entail changing the adopted policies, plans, or programs supporting alternative transportation. Transportation activities for the proposed project involve the receipt, shipment, and transfer of hazardous wastes. Onsite vehicular traffic is comprised of General Services Administration vehicles, such as cars, light trucks, gasoline and electric cars, medium duty trucks, forklifts, cranes and

other equipment. Other vehicular traffic includes delivery trucks which are generally routed to shipping and receiving facilities and vehicles owned by contractors authorized to work at Sandia's project. Therefore, activities related to the project will not conflict with adopted policies, plans, or programs supporting alternative transportation.

Specific References (list a, b, c, etc): 1, 3

Findings of Significance:

? Potential Significant Impact
? Potentially Significant Unless Mitigated
? Less Than Significant Impact
X No Impact

16. Utilities and Service Systems

Project activities likely to create an impact: None

Description of Environmental Setting:

The water supply system for Sandia consists of 6.4 miles of piping which provides 54 million gallons of water for fire protection, industrial support for Sandia's research programs, and sanitary use. Sandia maintains also 1.8 miles of gas line. Natural gas is the primary heating fuel used at the site. Laboratories also use natural gas in many of the buildings for experiments. Approximately 11.9 miles of electrical transmission and distribution lines are maintained by Sandia. For communication lines, Sandia maintains 19.7 miles to meet the current demand for data lines.

Potable water for Sandia is purchased from the adjacent Lawrence Livermore National Laboratories (LLNL). Water for LLNL is supplied by the San Francisco Water District through the Hetchy Hetchy Aqueduct. When needed, water is also supplied by the Alameda County Flood Control and Water Conservation District, Zone 7. LLNL maintains the drinking water distribution system at Sandia.

The project allows for continued hazardous waste storage in closed containers and treatment inside two buildings, and there are no new activities that would generate wastewater or solid waste or those that would require water sources beyond those already in place at Sandia. The renewal of the permit for Sandia's Hazardous Waste Storage and Treatment Facility does not involve, address, or result in the need for substantial amounts of fuel or energy or water resources. It will not require the development of new source of energy because at the minimum, the project will only use small amount of electricity for lighting the premises and running the compactors. Since no new utility service and no alterations to any utilities are required for the renewal of Sandia's permit, DTSC does not expect this project to have any impact on utilities and service systems, and thus no additional analysis is required.

Analysis of Potential Impact: Describe to what extent project activities would:

- a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.

- e. Result in determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the projects projected demand in addition to the providers existing commitments.
- f. Be served by a landfill with sufficient permitted capacity to accommodate the projects solid waste disposal needs.
- g. Comply with federal, state, and local statutes and regulations related to solid waste.

Specific References (list a, b, c, etc):

Findings of Significance: 1, 3

? Potential Significant Impact

? Potentially Significant Unless Mitigated

? Less Than Significant Impact

X No Impact

17. Mandatory Findings of Significance

Analysis of Potential Impacts. Describe to what extent project activities would:

- a. Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory.

The project allows for continued hazardous waste storage in closed containers and treatment inside two buildings. There are no new construction, dismantling, excavations, or grading proposed with this project. The project site is paved with asphalt and cement in and around the site. There are no fish or wildlife species at the site. There are no rare or endangered plants or animals at the project site. The area where the project is built has no historic structures, hence no artifacts of California history or pre-history is affected. The project activities will not have the potential to degrade the quality of the environment or substantially reduce the habitat of a fish or wildlife species, or cause a fish or wildlife population to drop below self-sustaining levels. The project will not threaten to eliminate a plant or animal community or reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or pre-history. Proper management of hazardous wastes, low level mixed wastes and combined wastes generated at the laboratories, research facilities and maintenance shops at Sandia National Laboratories in Livermore reduces present and future liability associated with the generation and management of hazardous waste, reducing workers' exposure to hazardous waste and leading to improve public image of the facility. The environment is better protected with the approval of the negative declaration and approval of the permit for continued operation of its existing and additional treatment units and upgraded container storage areas. Approval of the project will ensure that the facility will comply with the requirements of all the conditions of the permit and the regulations adopted in Title 22, California Code of Regulations. The storage of hazardous wastes, low level mixed wastes and combined wastes in containers, consolidation and commingling of similar wastes in containers, compaction of empty drums and contaminated solid wastes, when operated in compliance with the permit, will not pose a significant threat to human health or the environment, either directly or indirectly.

- b. Have impacts that are individually limited but cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.]

The impacts on the individual resources were examined and discussed in this Initial Study. The project (renewal of hazardous waste facility permit to store and treat hazardous waste, low-level mixed waste and combined waste) is not expected to result in any public controversy over its environmental effects. The treatment units and hazardous waste storage area will be operated according to the conditions established in the permit and regulations established in Title 22, California Code of Regulations (Part B Application, September 2003). This project will not create wastes for which there are limited methods of disposal. No new technology will be needed for any aspect of the storage of waste in drums and containers. The permit to operate the Hazardous Waste Storage and Treatment Facility at Building 9611 and Building 961 and its facility yard is not a step to an additional project or larger projects. The project will not have impacts that are individually limited but cumulatively considerable. Proper management of hazardous wastes, low level mixed wastes and combined wastes generated at the laboratories, research facilities and maintenance shops at Sandia National Laboratories in Livermore reduces present and future liability associated with the generation and management of hazardous waste, reducing workers' exposure to hazardous waste and leading to improve public image of the facility. The environment is better protected with the approval of the Negative Declaration and approval of the permit for continued operation of its existing treatment units and container storage areas. Approval of the project will ensure that the facility will comply with the requirements of all the conditions of the permit and the regulations adopted in Title 22, California Code of Regulations.

- c. Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly.

The impacts on the individual resources were examined and discussed in this Initial Study. The project (renewal of hazardous waste facility permit to store and treat hazardous waste, low-level mixed waste and combined waste) is not expected to result in any public controversy over its environmental effects. Proper management of hazardous wastes, low level mixed wastes and combined wastes generated at the laboratories, research facilities and maintenance shops at Sandia National Laboratories in Livermore reduces present and future liability associated with the generation and management of hazardous waste, reducing workers' exposure to hazardous waste and leading to improve public image of the facility. Approval of the project will ensure that the facility will comply with the requirements of all the conditions of the permit and the regulations adopted in Title 22, California Code of Regulations. The storage of hazardous wastes, low level mixed wastes and combined wastes in containers, consolidation and commingling of similar wastes in containers, compaction of empty drums and contaminated solid wastes, when operated in compliance with the permit, will not pose a significant threat to human health or the environment, either directly or indirectly. The project activities will not have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly.

Specific References (list a, b, c, etc): 1, 3

Findings of Significance:

- ? Potential Significant Impact
- ? Potentially Significant Unless Mitigated
- ? Less Than Significant Impact
- X No Impact

V. DETERMINATION OF DE MINIMIS IMPACT FINDING

Prepared only if a Finding of De Minimis Impact to fish, wildlife and habitat is proposed in lieu of payment of Department of Fish and Game Notice of Determination filing fee required pursuant to section 711.4 of the Fish and Game Code.

Instructions

A finding of “no potential adverse effect” must be made to satisfy the requirements for the Finding of De Minimis Impact as required by title 14, California Code of Regulations, section 753.4 “No potential adverse effect” is a higher standard than “no significant impact” and the information requested to provide substantial evidence in support of a “no potential adverse effect” is not identical in either its standard or content to that in other parts of the Initial Study.

In the *Explanation and Supporting Evidence* section below, provide substantial evidence as to how the project will have no potential adverse effect on the following resources:

a) Riparian land, rivers, streams, watercourse, and wetland under state or federal jurisdiction

There are no impacts on riparian land, rivers, streams, watercourse, and wetland under state or federal jurisdiction. The project allows for continued hazardous waste storage in closed containers and treatment inside two buildings. There is no construction, dismantling, excavation, or grading proposed with this project. Management practices, operating procedures and an inspection program in the facility operation plan will help to ensure that there are no releases to the environment. No wastes are discharged from this facility into the air or land. Sandia has operated at this location since 1993. No significant environmental incidents have occurred during the operation of the facility.

b) Native and non-native plant life and the soil required to sustain habitat for fish and wildlife

There are no impacts on native and non-native plant life and the soil required to sustain habitat for fish and wildlife.

See response a.

c) Rare and unique plant life and ecological communities dependent on plant life

There are no impacts on rare and unique plant life and ecological communities dependent on plant life.

See response a.

d) Listed threatened and endangered plants and animals and the habitat in which they are believed to reside

There are no impacts on listed threatened and endangered plants and animals and the habitat in which they are believed to reside.

See response a.

e) All species of plant or animals as listed as protected or identified for special management in the Fish and Game Code, the Public Resources Code, the Water Code, or regulations adopted there under.

There are no impacts on all species of plant or animals as listed as protected or identified for special management in the Fish and Game Code, the Public Resources Code, the Water Code, or regulations adopted there under.

See response a.

f) All marine and terrestrial plants species subject to the jurisdiction of the Department of Fish and Game and ecological communities in which they reside

There are no impacts on all marine and terrestrial plants species subject to the jurisdiction of the Department of Fish and Game and ecological communities in which they reside

See response a.

- g) All air and water resources the degradation of which will individually or cumulatively result in a loss of biological diversity among the plants and animals residing in that air and water

There are no impacts on all air and water resources the degradation of which will individually or cumulatively result in a loss of biological diversity among the plants and animals residing in that air and water.

See response a.

Explanation and Supporting Evidence

See Environmental Setting and Impact Analysis for Biological Resource #4.

Finding

Based on the explanation and supporting evidence provided above, DTSC finds that the project will have no potential for adverse effect, either individually or cumulatively on fish and wildlife, or the habitat on which it depends, as defined by section 711.2 of the Fish and Game Code.

VI. DETERMINATION OF APPROPRIATE ENVIRONMENTAL DOCUMENT

On the basis of this Initial Study:

X I find that the proposed project COULD NOT have a significant effect on the environment. A NEGATIVE DECLARATION will be prepared.

? I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

? I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

DTSC Project Manager Signature

Date

Cherry Padilla

DTSC Project Manager Name

Title

Phone #

D

DTSC Branch Chief/Section Chief Signature

Date

DTSC Branch/Section Chief Name

Title

Phone #

**ATTACHMENT A
INITIAL STUDY REFERENCE LIST**

For

Hazardous Waste Facility Permit Renewal for U.S. Department of Energy/Sandia National Laboratories
(Project Name)

1. Part A and Part B Application. Sandia National Laboratories, 7011 East Avenue, Livermore, California 945550-9517
2. Alameda County Officially Designated Scenic Highway.
www.dot.ca.gov/hq/LandArch/scenic_highways/alameda.htm. July 2003
3. Final Site-Wide Environmental Assessment of the Sandia National Laboratories/California. U.S. Department of Energy, National Nuclear Security Administration. Contract No. DE-AM04-97AL77613. Task Order No. DE-AT04-02AL67938. Dated January 2003
4. Period of Record General Climate Summary, Livermore, California.
http://ggweather.com/climate/livermore_t.htm
5. Annual Bay Area Air Quality Summaries. <http://www.baaqmd.gov>
6. Revised San Francisco Bay Area Ozone Attainment Plan for the 1-Hour National Ozone Standard.
<http://www.baaqmd.gov/>
7. RareFind Report for Altamont Quadrangle Dated July 31, 2003. California Department of Fish and Game. Natural Diversity Data Base.
8. Brekke, D., Childress, C., Long, B., and Nunez, K. Sandia Report. Sandia National Laboratories/California, Facilities and Safety Information Document. Dated March 2002.
9. Livermore Valley Joint Unified School District.
<http://www.livermoreschools.com/Schools/SchoolDirectory.htm>
10. Leighton Ford. Sandia National Laboratories, 7011 East Avenue, Livermore, California 945550-9517. Telephone conversation with Cherry Padilla, Department of Toxic Substances Control, Berkeley, California. August 4, 2003.
11. County of Alameda Noise Ordinance: <http://www.co.alameda.ca.us/admin/admincode/index.htm>
12. City of Livermore, Public Services Department. www.ci.livermore.ca.us//psd.html
13. Livermore Area Recreation & Park District. www.larpd.dst.ca.us/



Figure 1. Location Map, Sandia National Laboratories, Livermore, California

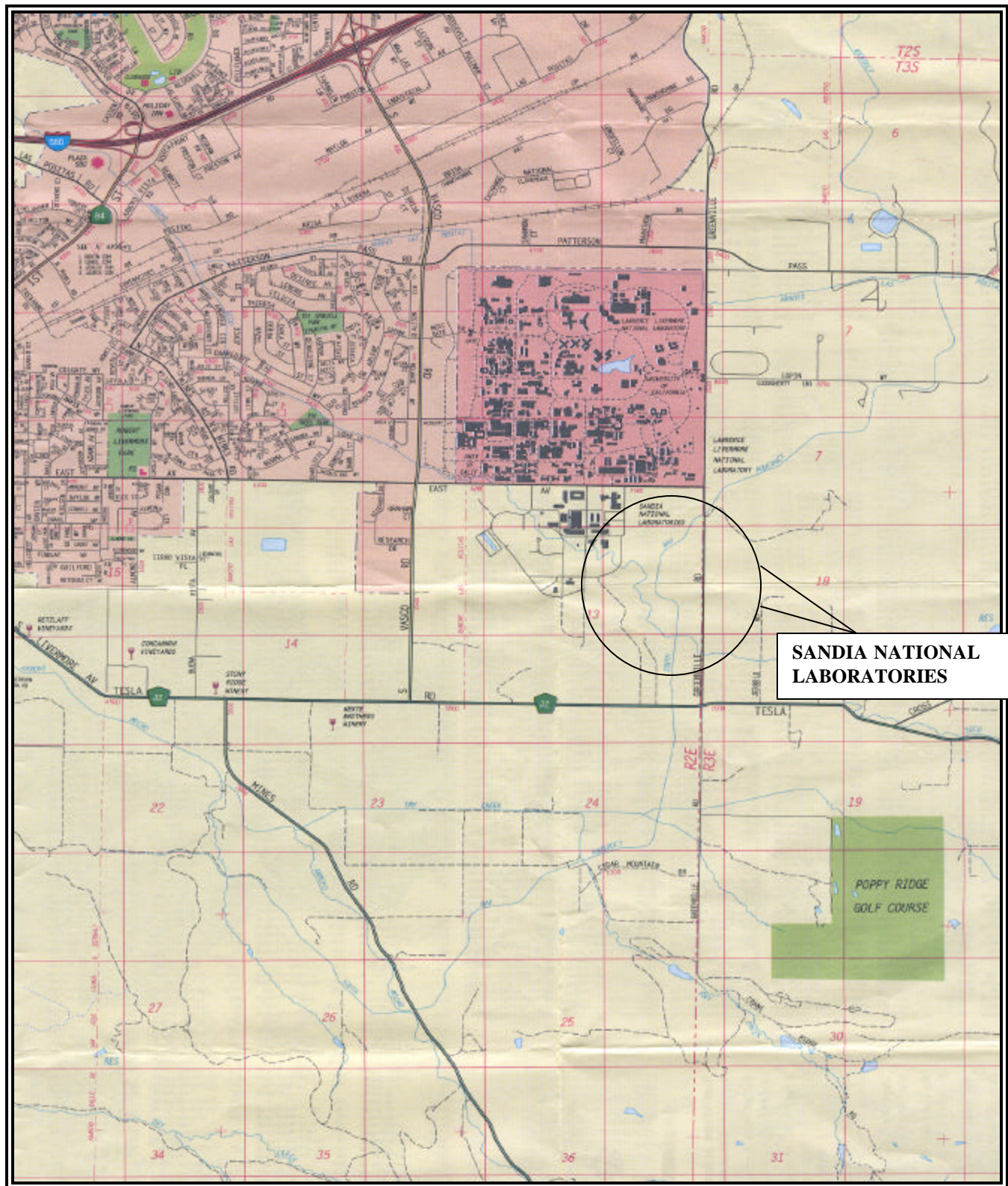


Figure 2. Facility Map, Sandia National Laboratories, 7011 East Avenue, Livermore, California

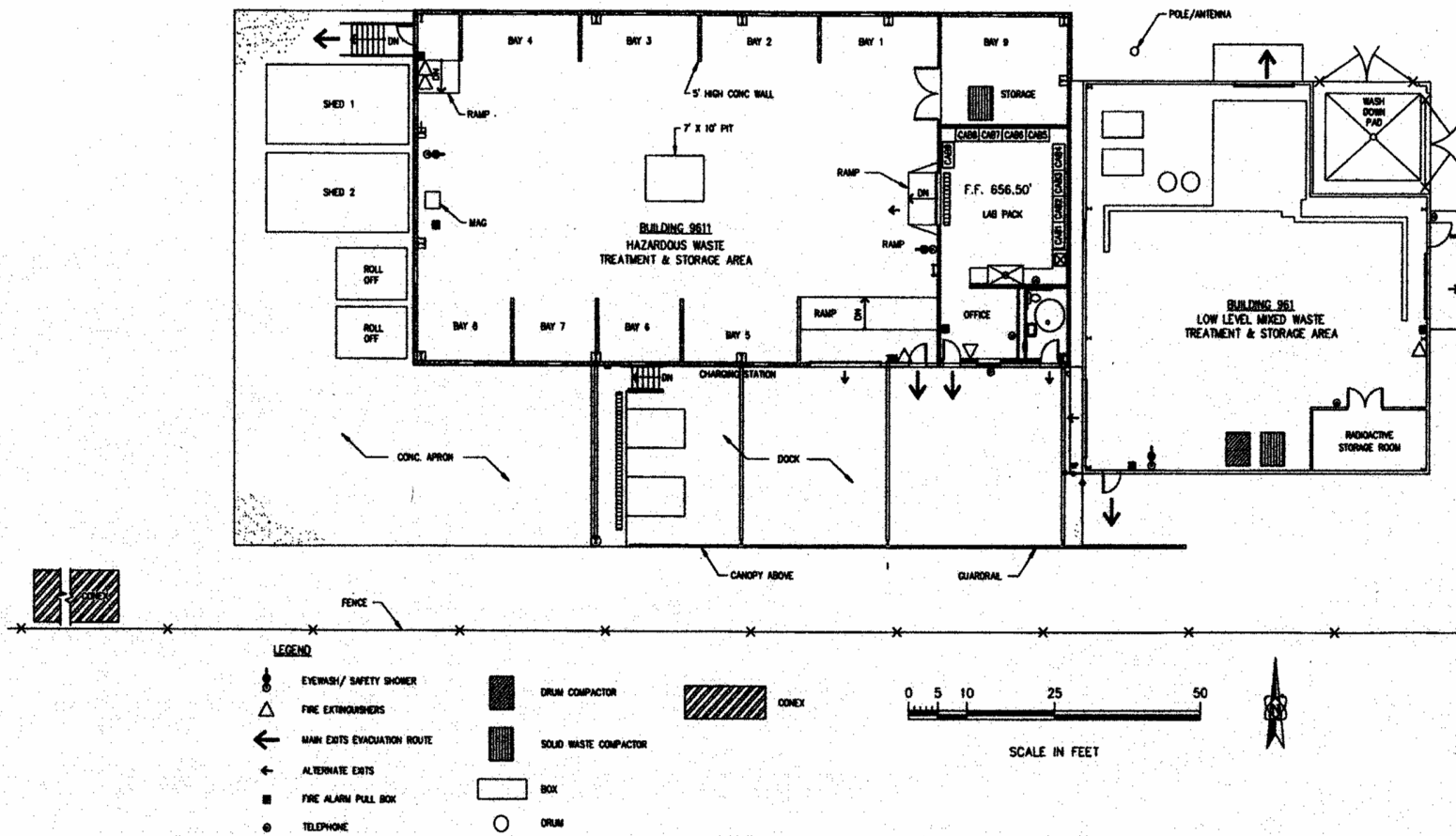


Figure 3. Site Map of U.S. Department of Energy/Sandia National Laboratories, Livermore, California

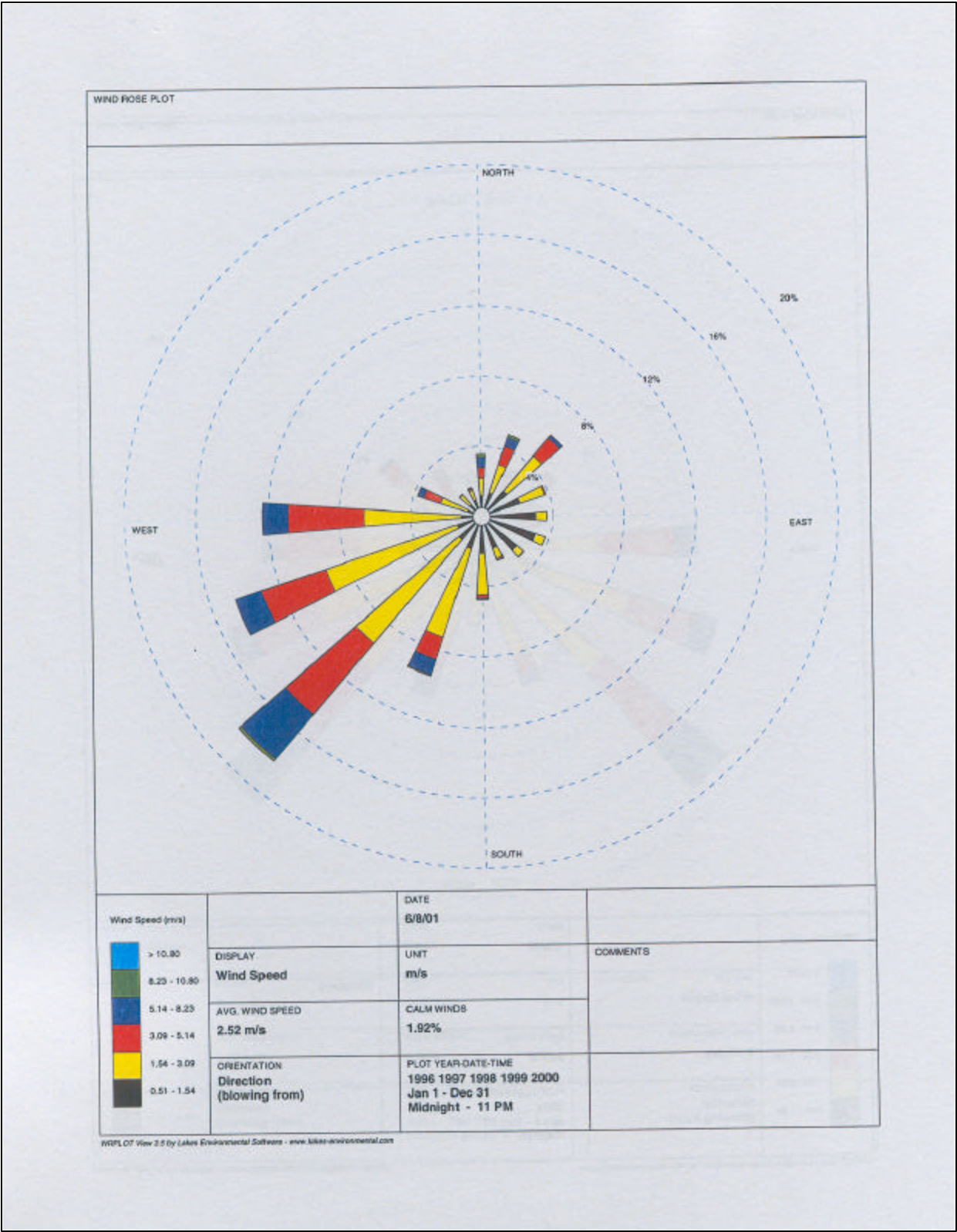


Figure 4. Wind Rose Plot, Livermore, California, 1996 through 2000

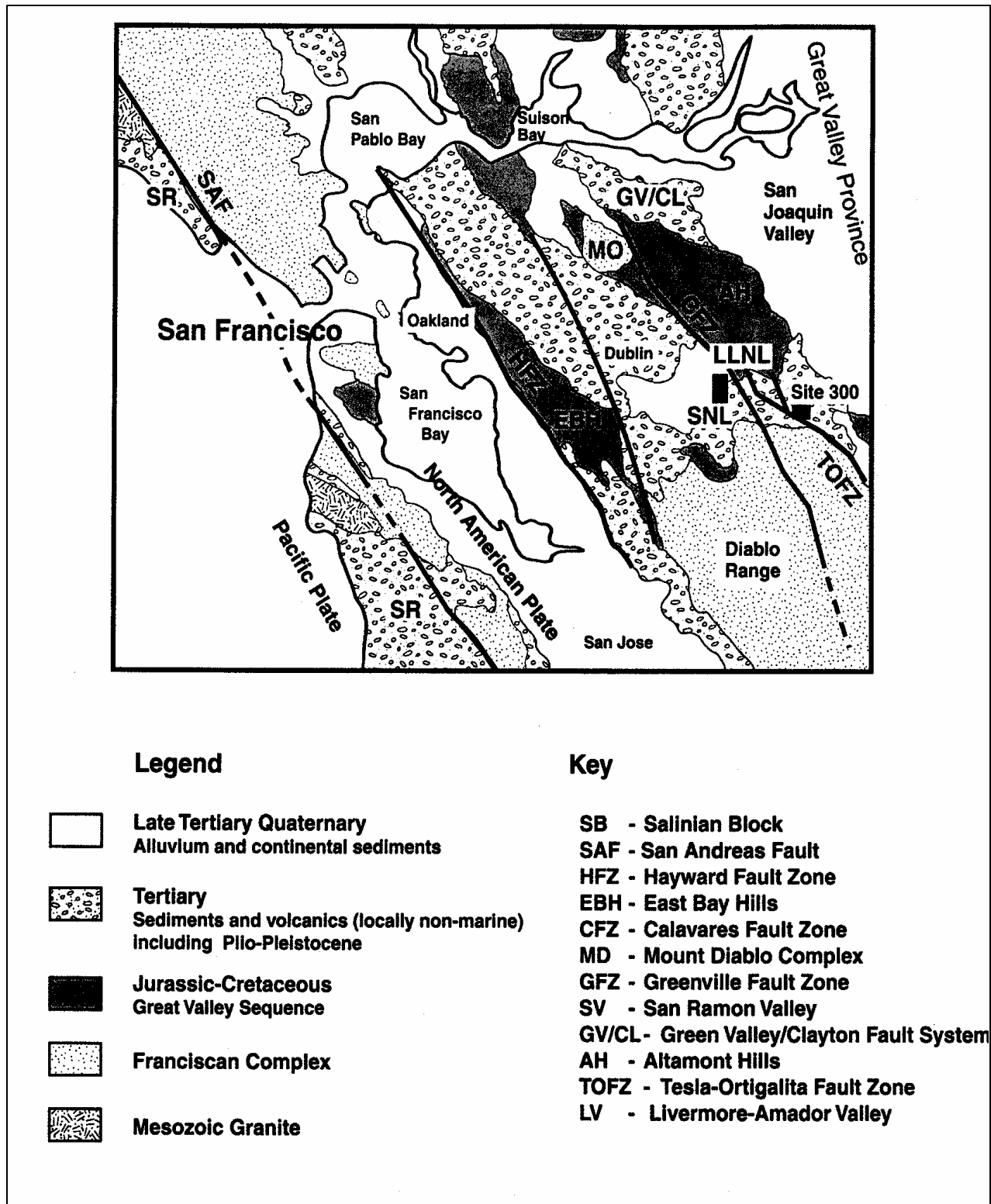


Figure 5. Geological Map of the San Francisco Bay Area

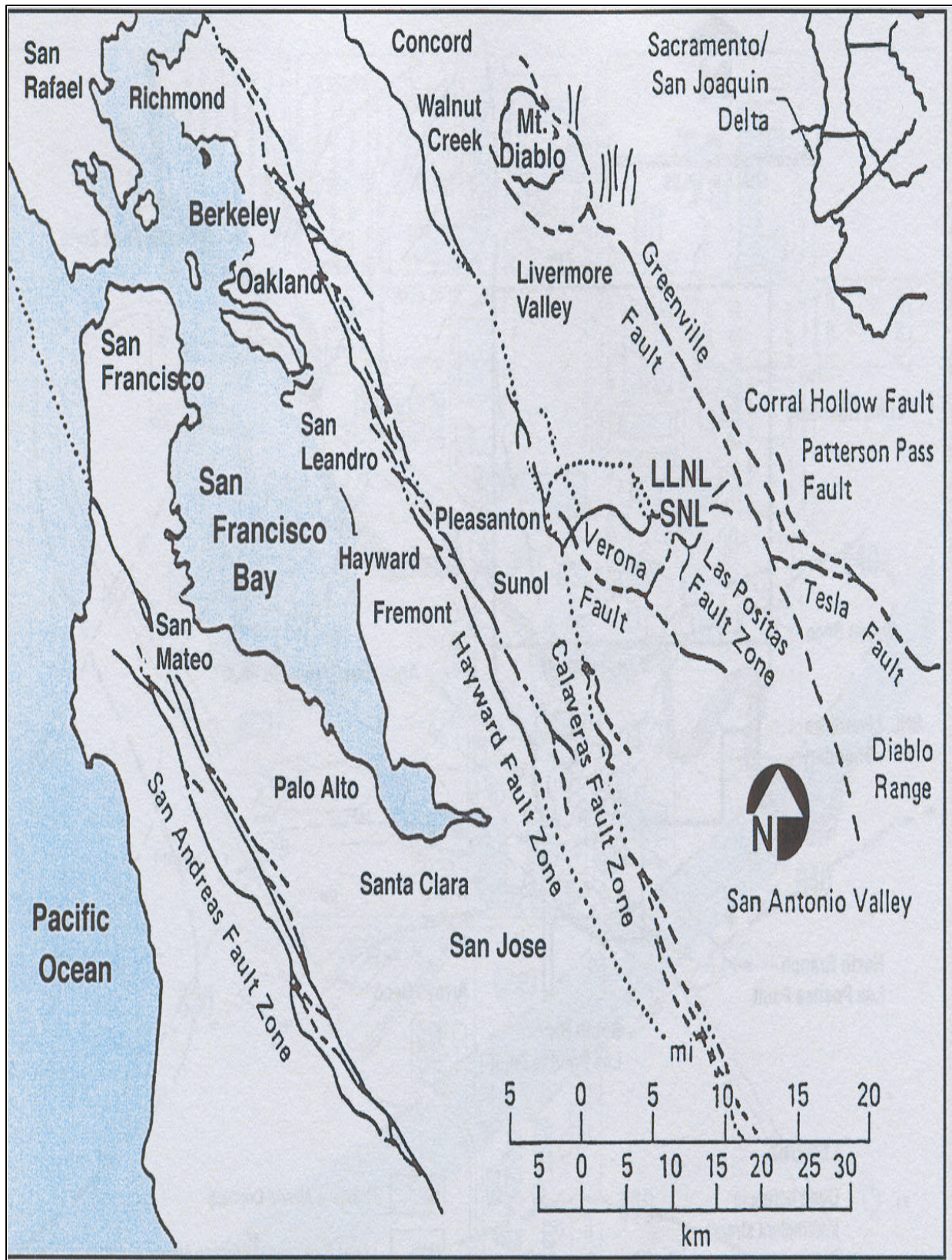


Figure 6. Major Fault Zones in the San Francisco Bay Area

Attachment 1

Altamont Quadrangle
RareFind Report
5/5/2003